(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :13/04/2022

(21) Application No.202241022046 A

(43) Publication Date : 29/04/2022

(54) Title of the invention : AUTONOMOUS DETECTION BASED COVERED TIMING CHANNELS

(51) International classification	:H04L0029060000, G06F0021550000, G06N0020000000, G06F0021620000, H04W0012120000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
With the rapid growth of data exfiltration carried out by cyber attacks, Covert Timing Channels (CTC) have become an imminent network security risk that continues to grow in both sophistication and utilization.These types of channels utilize inter-arrival times to steal sensitive data from the targeted networks.CTC detection relies increasingly on machine learning techniques, which utilize statistical-based metrics to separate malicious (covert) traffic flows from the legitimate (overt) ones,Covert channels provide effective methods to exfiltrate sensitive .data from the targeted networks. This type of exfiltration is particularly effective because it uses existing system resources, which were not originally designed to transmit sensitive data for the purpose of communication.By doing this, the transfer of the covert data becomes undetectable by traditional detection methods such as firewalls and intrusion detection systems.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202141060316 A

(19) INDIA

(22) Date of filing of Application :23/12/2021

(43) Publication Date : 31/12/2021

(54) Title of the invention : Phishing web classification Based on Uniform Resource Locator in cloud technology

(51) International classification : H04L0029060000, G06N0007000000, G06F0016955000, G06N0020000000, G06N0003080000	(71)**Name of Applicant :**
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(86) International Application No Filing Date : PCT// :01/01/1900	
(87) International Publication No : NA	
(61) Patent of Addition to Application Number Filing Date :NA :NA	
(62) Divisional to Application Number Filing Date :NA :NA	

(57) Abstract :

Phishing web classification Based on Uniform Resource Locator in cloud technology Abstract: One of the most common and dangerous cybercrimes is phishing. It has an impact on people all over the world. This is the purpose of these attacks. They intend to steal financial information from both individuals and businesses. Because there are numerous clues, content and browser information can be used to determine whether a website is a phishing site. The UC Irvine Machine Learning Repository (MLR) currently contains 30 features that can be classified using Extreme Learning Machine (ELM) classification. Phishing Websites Data is one of these features that can be classified using this method (ELM). When compared to other machine learning methods, such as SVM and Nave Bayes, ELM had the highest accuracy rate of 95 percent. (NB). The act of pretending to be a well-known, trustworthy company online in order to steal personal and financial information, such as bank account information, from people is known as phishing. When a person visits a phishing site, it will appear to be the real site and will direct them to a page on the fake site where they will be asked for personal information. Machine learning algorithms can be used to improve the accuracy of a prediction. Based on the characteristics of URL phishing attacks, the proposed method has the highest level of accuracy in predicting these types of attacks. The uniform resource locator is used to find things in this method (URL). We discovered that phishing site URLs contain many of the same elements. The proposed system can, to the best of its ability, predict URL-based phishing attacks. It discusses algorithms, such as those that can assist people in making decisions and predicting the future. This chapter is entirely dedicated to these algorithms. Using multiple algorithms will assist us in improving the accuracy of our predictions. To detect URL-based phishing attacks, the proposed system employs a variety of machine learning algorithms. You will get better results if you use a hybrid algorithm that combines several algorithms.

No. of Pages : 12 No. of Claims : 8

क्रमांक : 044139728
SL No :

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

पेटेंट सं. / Patent No.	:	392809
आवेदन सं. / Application No.	:	201941030758
फाइल करने की तारीख / Date of Filing	:	30/07/2019
पेटेंटी / Patentee	:	Allinnov Research and Development Private Limited

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित SYSTEM AND METHOD FOR COOKING FOOD ITEMS नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 30th day of July 2019 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled SYSTEM AND METHOD FOR COOKING FOOD ITEMS as disclosed in the above mentioned application for the term of 20 years from the 30th day of July 2019 in accordance with the provisions of the Patents Act,1970.

अनुदान की तारीख :
Date of Grant : 24/03/2022

पेटेंट नियंत्रक
Controller of Patent

टिप्पणी – इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, **30th day of July 2021** को और उसके पश्चात प्रत्येक वर्ष मे उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 30th day of July 2021 and on the same day in every year thereafter.

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024169 A

(43) Publication Date : 13/05/2022

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(54) Title of the invention : HAND GESTURE RECOGNITION USING RASPBERRY PI

(51) International classification	:G06F0003010000, G06K0009000000, A61K0036730000, G06F0003048800, G01S0013580000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Hand gestures represent a vast amount of information that can be used for basic communication by people with disabilities as well as augment communication for others. As the information of hand gestures rely on movement sequences, identifying hand gestures with accuracy in real time is challenging. In the domain of human-computer interaction, hand gesture recognition models have been developed for mouse pointer movement, playing games with specific actions etc. Various techniques such as HOG transforms, SIFT, BRIEF, ORB have been used to identify region of interest and for classifying the region of interest techniques such as Support Vector Machines (SVMs), Hidden Markov Models (HMMs) etc. are being used. These methods demand heavy computational resources. This paper presents a novel method for recognizing American Sign Language (ASL) using image pre-processing methods and a Convolution Neural Network (CNN) for classification that is implemented in Raspberry Pi3. Images captured from the Raspberry Pi camera module are pre-processed for better clarity and region of interest isolation so that better set of features are extracted. These features are then fed into CNN for classification. Executing the model on Raspberry Pi3 has resulted into a satisfactory output as the classification result and time taken by the system has been acceptable to end-users.

No. of Pages : 5 No. of Claims : 5

(54) Title of the invention : ONLINE REAL ESTATE MANAGEMENT SYSTEM

(51) International classification	:G06Q0050160000, B60R0005040000, A63F0013300000, G06F0016510000, E05B0019000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
The approach to this idea involves the perfect solution to the issues and constraints that other real estate services have. The purpose of this system is to establish an interactive web site that allows advertisers, buyers and sellers to meet their needs on-line.Using this system, users can easily buy or sell their assets without visiting dealers' offices every time. When a user (seller or buyer) wants to advertise for an asset, could easily do it using this On-line Real Estate service.They also don't take up a lot of room for their operators. They help buyers to make an informed decision by providing a comparison of properties prices/ features within the same locality which makes it easy to possess a dream property.They not only list properties but also educate, inform, and empower their clients with the knowledge necessary in making smart decisions about real estate. The biggest advantage of this project is that we can choose from varieties of lands with less efficiency of time.Its also provide a system for online handling of all the . commerce processes like advertising, selling and buying.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024201 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : ENHANCING VIRTUAL INTRANET SERVER PERFORMANCE IN BOTH ONLINE AND OFFLINE MODE

(51) International classification	:H04L0029060000, G06Q0030020000, H04L0029080000, C02F0001440000, G06F0016957000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
The approach towards the idea is, now a day the peoples are mostly used by the Google search engine. The search engine searches for and identifies items in a database that correspond to keywords or characters specified by the user, used especially for finding particular sites on the World Wide Web. Hence, any keywords have been searched on the Google and as well as Bing. It gets from many kinds of links. In that links may be the same or in different links appeared. In despite of we proposed the method as Searched keyword has been added with the define keyword and special quotes, it gets from lots of links are appeared. We have analyzed to compare the repeated links and stored by using the intranet server or local server.

No. of Pages : 5 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024202 A

(43) Publication Date : 13/05/2022

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(54) Title of the invention : COVID 19 FUTURE FORECASTING SYSTEM

(51) International classification	:G07F0017320000, G06Q0030020000, G06Q0010040000, G06N0005040000, B60T0017220000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
The spread of COVID-19 in the whole world has put the humanity at risk. The resources of some of the largest economies are stressed out due to the large infectivity and transmissibility of this disease. The capability of ML models to forecast the number of upcoming patients affected by COVID-19 which is presently considered as a potential threat to mankind. In particular, five standard forecasting models, namely LR, LASSO, SVM, ES, LSTM have been used in this study to forecast the threatening factors of COVID-19. Three types of predictions are made by each of the models, such as the number of newly infected cases, the number of deaths, and the number of recoveries But in the cannot predict the accurate result for the patients. To overcome the issue, Proposed method using the long short-term memory (LSTM) predict the number of COVID-19 cases in next 10 days ahead and effect of preventive measures like social isolation and lockdown on the spread of COVID-19.

No. of Pages : 5 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024222 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : NEW FIRMS FOR BIAS ANALYSIS USING NLP MODEL

(51) International classification	:G06Q0040060000, G06Q0030020000, H04B0003230000, A61K0008970000, A61B0001000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Media plays a vital role in influencing decisions and opinions. The bias hidden in lot of online media is targeted approach to spread the propoaganda motives. The goal is to conduct an extensive study and research on editorial news articles provided by online news sites. The news articles are scrapped and uses the state of the art NLP Bias detection -models, a Bias score is allocated to each media. This will help analyze the various metrics for the analysis of bias persistent in our media, which includes bias based on gender, politics, opinion, etc. We therefore study each metric and visualize the results on a Dashboard

No. of Pages : 5 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024225 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : EMBEDDING SECURE SMS USING IMAGE STEGANOGRAPHY

(51) International classification	:H04N0001320000, G10L0019018000, A61F0002300000, G06Q0020320000, G06Q0020400000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
We propose in this project as image steganography with client server mobile OTP. authentication based secured android application, in this case the users of thisandroid appcan login with theirmobile OTP in the initial state so the user knows who view the SMS and again it shows the password panel for second state of authentication so this android based application will provide the highly secured way of SMS communication via an image steganography Steganography technique can be used in images, a video files or an audio file. Typically, however, steganography is written in characters including hash marking, but its usage within images is better thing from Android based secure data communication. At any rate, Steganography protects from pirating copyrighted materials as well as aiding in unauthorized viewing. Rather than being incomprehensible to an unauthorized third party, as is the case with cryptography, steganography is designed to be hidden from a third party. Not only must the hidden data be discovered- considered a formidable task in and of it-self, it must be encrypted, which can be nearly impossible. One use of steganography includes watermarking which hides copyright information within a watermark by overlaying files not easily detected by the naked eye.

No. of Pages : 4 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024227 A

(43) Publication Date : 13/05/2022

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(54) Title of the invention : AI IN IMAGING DATA ACQUISITION, SEGMENTATION AND DIAGNOSIS FOR COVID-19

(51) International classification	:G06T0007000000, G06T0007110000, G06T0007143000, A61B0006030000, G07C0005000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
ABSTRACT Covid-19 is a rapidly spreading viral disease that infects not only humans, but animals are aJso infected because of this disease. The daily life of human beings, their health, and the economy of a country are affected due to this deadly viral disease. Covid-19 is a common spreading disease, and till now, not a single country can prepare a vaccine for COVID-19. A clinical study of COVID-19 infected patients has shown that these types of patients are mostly infected from a lung infection after coming in contact with this disease. Chest x-ray (i.e., radiography) and chest Computed tomography (CT) are a more effective imaging technique for diagnosing lunge related problems. Still, a substantial chest x-ray is a lower cost process in comparison to chest CT. Deep learning is die most successful technique of machine learning, which provides useful analysis to study a large amount of chest x-ray images that can critically impact on screening of Covid-19.This type have taken the PA (posteroanterior) view of chest x-ray scans for covid-19 affected patients as well as healthy patients. After cleaning up the images and applying data augmentation, we have used deep learning-based SVM models for classification and accuracy.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202241024235 A

(19) INDIA

(22) Date of filing of Application :25/04/2022

(43) Publication Date : 13/05/2022

(54) Title of the invention : AN ONLINE VM PREDICTION FOR RESOURCE MANAGEMENT USING MULTI OBJECTIVE LOAD BALANCING FRAMEWORK

(51) International classification	:G06F0009500000, H04L0029080000, H04L0012803000, H04W0028080000, A61B0006030000	(71)Name of Applicant :

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(86) International Application No
    Filing Date
:NA
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(87) International Publication No
: NA

(61) Patent of Addition to Application Number
    Filing Date
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(62) Divisional to Application Number
    Filing Date
:NA
:NA

(57) Abstract :
Annexurc 3 The workload prediction is one of the variables by which the efficiency and operational cost of a cloud can be improved. Accuracy is the key component in workload prediction and the existing approaches lag in producing accuratcresults. The workload prediction and resource allocation significantly play an important role in production of an efficient cloud environment. The proactive estimation of future workload followed by decision of resource allocation have become a prior solution to handle other in-built challenges like the overloading of physical machines, resource wastage. Quality-of-Services (QoS) violations, load balancing. VM migration and many more. The work presents acomprehensive survey of workload forecasting and predictive resource management models in cloud environment. A conceptual framework for workload forecasting and resource management, categorization of existing machine learning based resources allocation techniques, and major challenges ofinefficient distribution of physical resource distribution are discussed pertaining to cloud computing. Thereafter, a thorough survey of existing state-of-the-art contributions empowering machine learning based approaches in the field of cloud workload prediction and resource management are rendered. Finally, this work explores and concludes various emerging challenges and future research directions concerning elastic resource management in cloud environment.

No. of Pages : 5 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024236 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : SMART HOME SECURITY SYSTEM USING FACE RECOGNITION

(51) International classification	:G06K0009000000, G08B0025000000, H04L0012280000, G08B0013196000, G08B0019000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure 3 This project have proposed and demonstrated smart home security approach which requires less cost and provide the security to home. Have the system with (he help of face recognition. The real time face recognition allows to detect the stranger at the door and give notification to the owner on his telegram regarding this. Capturing live images from camera and applying different techniques of face detection and face recognition which will reduce manual or traditional work. In solution, by creating interface we generate the dataset. Trained the images using Haar Cascade and LBPH classifier. After completing training it will successfully detect and recognize faces and non faces. This system can be easily altered to be used in other applications like attendance system in schools, colleges and offices and it can also be used in suspects and terrorists identification systems.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024238 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : CREDIT CARD FRAUD DETECTION USING MACHINE LEARNING

(51) International classification	:G06Q0020400000, G06N0020000000, G06N0005000000, G06N0007000000, G06N0003040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure 3 The approach to this idea involves perfect solution to the issues we are facing in day-to-day life on behalf of fraud attempts. There are many kinds of fraud attempts like hacking, skimming etc., Even though many credit card fraud detection tools have been developed, but some tools are may not able to detect more accurately of fraud attempts. Detecting of large number of transaction sets over millions of transactions is still a challenging task using other algorithms. We implement Long Short-Term Model (LSTM). The goal of the LSTM is to improve the accuracy of finding fraud and non-fraud attempts effectively and efficiently. This LSTM system improves the accuracy and efficient detection of fraud transactions. With help machine learning algorithms such as Decision Tree algorithms make a comparison between training dataset and trained dataset. Long Short-Term Model act as a classifier which is used to classify fraud attempts.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024241 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : A PREDICTION APPROACH FOR STOCK MARKET VOLATILITY BASED ON TIME SERIES DATA

(51) International classification	:G06Q0040040000, G06Q0040060000, G06F0003048200, F02D0019060000, G06F0016230000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure 3 Investors always try to monitor the risks in real time so that the return on investments could be higher. Forecasting helps in safeguarding the trade of securities among the buyers and the sellers as well as elimination of the risks involved. Our project discusses an ARIMA (Auto Regressive Integrated Moving Average) model for prediction of stock market movement. An ARIMA model is a vibrant univariate forecasting method to project the future values of a time series. Our project discusses the forecasting process , various forecasting techniques as well as financial forecasting , Time series analysis and at last data collection and methodology is discussed over. We split the training dataset into train and test sets and we use the train set to fit the model, and generate a prediction for each element on the test set. A rolling forecasting procedure is required given the dependence on observations in prior time steps for differencing and the AR model. To this end, we re-create the ARIMA model after each new observation is received. Finally, we manually keep track of all observations in a list called history that is seeded with the training data and to which new observations are appended at each iteration

No. of Pages : 6 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024246 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : INTRUSION DETECTION SYSTEM (IDS)

(51) International classification	:H04L0029060000, G08B0013240000, G06F0021550000, G08B0013220000, G08B0013196000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
An Intrusion Detection System (IDS) is a system that monitors network traffic for suspicious activity and issues alerts when such activity is discovered. It is a software application that scans a network or a system \;or the 'harmful activity or policy breaching. Any malicious venture or violation is normally reported either to an administrator. This integrates outputs from multiple sources and uses alarm filtering techniques to differentiate malicious activity from false alarms. Although intrusion detection systems monitor networks for potentially malicious activity, they are also disposed to false alarms. Hence, organizations need an intrusion detection system to recognize what normal traffic on the network looks like as compared to malicious activity. An IDS is a vital a part of each organisation as day by day the attacks of hackers are getting present day and to prevent the viable breach of confidentiality and integrity of an organization.

No. of Pages : 5 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024249 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : MACHINE LEARNING TECHNIQUES FOR 5G AND 6G

(51) International classification	:G06N0020000000, G06N0003080000, G06N0005040000, G06N0003040000, H04L0012580000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
Wireless communication systems play a very crucial role in modern society for entertainment, business, commercial, health and safety applications. These systems keep evolving from one generation to next generation and currently we are seeing deployment of fifth generation (5G) wireless systems around the world. Academics and industries are already discussing beyond 5G wireless systems which will be sixth generation (6G) of the evolution. One of the main and key components of 6G systems will be the use of Artificial Intelligence (AI) and Machine Learning (ML) for such wireless networks. Every component and building block of a wireless system that we currently are familiar with from our knowledge of wireless technologies up to 5G, such as physical, network and application layers, will involve one or another AI/ML techniques. This overview paper, presents an up-to-date review of future wireless system concepts such as 6G and role of ML techniques in these future wireless systems. In particular, we present a conceptual model for 6G and show the use and role of ML techniques in each layer of the model. We review some classical and contemporary ML techniques such as supervised and un-supervised learning, Reinforcement Learning (RL), Deep Learning (DL) and Federated Learning (FL) in the context of wireless communication systems. We conclude the paper with some future applications and research challenges in the area of ML and AI for 6G networks. Network embeddings assigns modes in a network to low dimensional representations and effectively preserves the network structure.Recently,a significant amount of progresses have been made toward this emerging network analysis paradigam.In this survey, we focus on categorizing and then reviewing the current development on network embedding methods, and point out its future research directions. We first summarize the motivation of network embedding.

No. of Pages : 5 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024258 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : DDOS ATTACK DETECTION USING MACHINE LEARNING

(51) International classification	:H04L0029060000, G06N0020000000, G06N0003080000, G06F0021550000, G06N0005000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Software-defined network (SDN) is a network architecture that used to build, design the hardware components virtually. In the traditional network, it's not possible to change dynamically, because it's a fixed connection. SDN is a good approach but still is vulnerable to DDoS attacks. To prevent the DDoS attack, the machine learning algorithm can be used. The DDoS attack is the multiple collaborated systems that are used to target the particular server at the same time. In SDN control layer is in the center that link with the application and infrastructure layer, where the devices in the infrastructure layer controlled by the software. The proposed idea is applying machine learning techniques namely Random Forest Algorithm and Linear Regression Algorithm to detect malicious traffic. Our test outcome will show the better accuracy and detection rate when compared to Decision Tree and Support Vector Machine (SVM) algorithm.

No. of Pages : 5 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024259 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : SVM BASED DETECTION OF PHISHING WEBSITE

(51) International classification	:H04L0029060000, G06K0009620000, H01L0021670000, H04N0003320000, G11C0011160000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
. Phishing is observed as one of the most commonly used social engineering and cyber-attack in today's world. Most users are accessing the services online because of the pandemic, so it has become straightforward for phishers to obtain confidential information and use it maliciously. Phishing is considered as the act of luring end-users into trusting a phishing website as a legitimate website and making them give out sensitive information such as credit card details, personally identifiable information, or passwords. The contents and look of phishing websites look very similar to legitimate websites, prompting people to provide their sensitive data. Phishing was the most common type of cybercrime in 2021. The attack doubled the amount from the previous year leading to several monetary losses and cybersecurity challenges. A machine learning-based approach combining several features to attain the best results to prevent this crime . . was proposed in the work.

No. of Pages : 5 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024261 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : VOICE BASED EMOTION RECOGNITION USING NEURAL NETWORK

(51) International classification	:G06K0009000000, G10L0025630000, G10L0015160000, G10L0025300000, G06N0003040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
This approach has provided a detailed review of the deep learning techniques for SER. Deep learning techniques such as DBM, RNN, DBN, CNN; and AE has been the subject of most research in recent years. These deep learning methods and their layer-wise architectures are briefly elaborated based on the classification of various natural emotion such as happiness, joy, sadness, neutral, surprise, boredom, disgust, fear, and anger. These methods offer easy model training as well as the efficiency of shared weights. Limitations of deep learning techniques include large layer-wise internal architecture, less efficiency for temporally-varying input data and over-learning during memorization of layer-wise information. This approach forms a base to evaluate the performance and limitations of current deep learning techniques. Further, it highlights some promising directions for better SER systems.

No. of Pages : 5 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024262 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : CURSOR CONTROL BY HAND GESTURE

(51) International classification	:G06F0003010000, G06F0003048800, G06F0003030000, G06F0003035400, A63B0060100000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
A method for on-screen cursor control without any physical connection to a sensor is presented. Identification of colored caps on the fingertips and their tracking is involved in this work; Different hand gestures can be replaced in place of colored caps for the same purpose. Different operations of mouse controlled are single left click, double left click, right click and scrolling. Various combinations of the colored caps are used for different operations. Range of skin color can be varied in the program in accordance with the person to be used, surrounding lightening conditions. An approximate area ratio that is not being used by the hand in the convex hull is taken after analyzing the program output at different gestures of the hand. This work can be used in various real time applications like cursor control in a computer, android based smart televisions etc. Although there are devices like mouse and laser remotes for the same purpose, this work is so simple so that it reduces the usage of external hardware in such a way. ■

No. of Pages : 5 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024263 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : MEDIA PLAYER BASED ON FACIAL AND HAND GESTURES

(51) International classification	:G06F0003010000, G06K0009000000, G06F0003030000, G06T0007246000, H04N0021236800
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
The main purpose of the proposed work is to help the user get better experience of using advance media player. Media player can be controlled by using hand gestures recognition and face detection for various features of the media player such as playing the video and pausing when the user is not looking at the screen and controlling functions as volume up and volume down, playing next and previous video. It will help the users to use the video player with ease.

No. of Pages : 5 No. of Claims : 5

(54) Title of the invention : A TRUSTED TRADING FRAMEWORK USING BLOCKCHAIN IN ECOMMERCE

(51) International classification	:H04L0009320000, G06Q0030060000, H04L0009060000, H04W0012000000, G06Q0020380000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
With several big data breaches capturing the limelight in recent Years, privacy concerns are weighing heavily on the minds of Internet users worldwide. As these challenges overwhelm sellers, they have been looking for that one technology that is capable of handling all security-related challenges. The perfect solution is block chain, being a decentralized system it brings a host of benefits for the domain. In our proposed system, Block chain creates transparency and achieves consensus-based trust without the need for a central authority. The decentralized ecosystem offers a robust structure that is practically impossible to hack. In turn it enables consumers to connect with companies or other consumers, eliminating middlemen from the process. It also extends the ability to turn insights into immutable assets, allowing superior control of data usage. Hence, it can help enterprises minimize cost implications by up to 90% savings.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :01/11/2021

(21) Application No.202141049969 A

(43) Publication Date : 03/12/2021

(54) Title of the invention : COVID-19 SPREAD PREVENTION ASSISTIVE COMPUTER VISION BASED VIRTUAL MOUSE USING REAL-TIME DEEP LEARNI

(51) International classification	:G06F0003035400, G06F0003010000, G06F0003030000, G06K0009000000, G06F0003034600
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
The mouse is one of the wonderful inventions of Human-Computer Interaction (HCI) technology. Currently, wireless mouse or a Bluetooth mouse still uses devices and is not free of devices completely since it uses a battery for power and a dongle to connect it to the PC. In the proposed AI virtual mouse system, this limitation can be overcome by employing webcam or a built-in camera for capturing of hand gestures and hand tip detection using computer vision. The algorithm used in the system makes use of the machine learning algorithm. Based on the hand gestures, the computer can be controlled virtually and can perform left click, right click, scrollingJunctions, and computer cursor function without the use of the physical mouse. The algorithm is based on deep learning for detecting the hands. Hence, the proposed system will avoid COVID-19 spread by eliminating the human intervention ;and dependency of devices to control the computer.

No. of Pages : 7 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION   (21) Application No.202141011050 A

(19) INDIA

(22) Date of filing of Application :16/03/2021   (43) Publication Date : 26/03/2021

(54) Title of the invention : A FAULT TOLERANCE SOLUTION FOR LARGE SCALE WIRELESS SENSOR NETWORKS IN THE CONTEXT OF A PRECISION AGRICULTURE APPLICATION

(51) International classification	:H04W0084180000, G06F0011070000, H04W0040220000, G06F0011140000, H04W0016180000	(71)**Name of Applicant :**
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(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No	:NA	
Filing Date	:NA	
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Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

In this work, we have proposed a fault tolerance solution for Large-scale wireless sensor arrays in the context of a precision agriculture application. We first proposed a scenario for the deployment of AWSNs for this application using thousands of sensor nodes and relay nodes. These the latter are deployed so as to form regular hexagons. Then, we proposed the SFR-RNR solution (Simultaneous Failure Recovery based on Relay Node Relocation) for the resolution of this problem. This solution uses a redeployment strategy of a number of relay nodes in the damaged area so as to restore connectivity and partially the cover. Finally, we evaluated the performance of our approach proposed by simulation. The performance results associated with our large-scale solution show that the number of relay nodes redeployed following the occurrence of a failure is slightly influenced by the extent of the damaged area. This shows that our solution fits fine to large networks.

No. of Pages : 26 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :19/10/2021

(21) Application No.202141047328 A

(43) Publication Date : 29/10/2021

(54) Title of the invention : Smart Application using Cloud-Based IoT for Night Vision Patrolling Robot

(51) International classification	:A61K0035583000, G05D0001020000, G07C0001200000, G06K0009000000, B25J0019020000
(86) International Application No Filing Date	:PCT// / :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Security patrolling robot with a night vision camera is utilized to secure any site. The robotic vehicle has a night vision camera and sound sensors and moves at predetermined intervals. It uses a predefined line to follow when patrolling. When sound is detected, it comes to a halt at points before moving on to the next. The system uses infrared-based path-following technology to patrol the designated area. It monitors each area with a 360-degree rotating HD camera for any trespassing. It can listen in on the surrounding noise. Any sound is recognized once the firm has closed, and it begins travelling towards the sound on a predetermined course. It then uses its camera to examine its surroundings for any human faces. As soon as sound or a human face is detected, it records and transmits photos of the scene. We're utilizing IOT gecko to receive and display sent photographs, as well as alert sounds, to the user. As a result, we proposed a completely self-contained security robot that works around the clock and patrols large areas to ensure the facility's safety. These images are then supplied to the user in real time for analysis, and if any problems are found, a manual alarm is triggered. Robot patrolling is utilized in military zones, hospitals, shopping malls, Restricted Zones, Industrial Zones, and Agricultural Zones, to name a few.

No. of Pages : 5 No. of Claims : 3

CERTIFICATE OF GRANT
INNOVATION PATENT

Patent number: 2021101599

The Commissioner of Patents has granted the above patent on 5 May 2021, and certifies that the below particulars have been registered in the Register of Patents.

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Title of invention:

AN IOT BASED SELF PHASED ANALYSIS OF ADVERSE EFFECTS IN COVID RECOVERED PATIENTS

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Term of Patent:

Eight years from 29 March 2021

Dated this 5th day of May 2021

Commissioner of Patents

CERTIFICATE OF GRANT
INNOVATION PATENT

Patent number: 2021101599

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.

Dated this 5th day of May 2021

Commissioner of Patents

Extracts from the Patents Act, 1990

Sect 120(1A)	Infringement proceedings in respect of an innovation patent cannot be started unless the patent has been certified.

Sec 128   **Application for relief from unjustified threats**

(1)   Where a person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings a person aggrieved may apply to a prescribed court, or to another court having jurisdiction to hear and determine the application, for:

    (a)   a declaration that the threats are unjustifiable; and

    (b)   an injunction against the continuance of the threats; and

    (c)   the recovery of any damages sustained by the applicant as a result of the threats.

(2)   Subsection (1) applies whether or not the person who made the threats is entitled to, or interested in, the patent or a patent application.

Sec 129A   **Threats related to an innovation patent application or innovation patent and courts power to grant relief.**

Certain threats of infringement proceedings are always unjustifiable.

(1)   If:

    (a)   a person:

        (i) has applied for an innovation patent, but the application has not been determined; or

        (ii) has an innovation patent that has not been certified; and

    (b)   the person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings in respect of the patent applied for, or the patent, as the case may be;

        then, for the purposes of an application for relief under section 128 by the person threatened, the threats are unjustifiable.

Courts power to grant relief in respect of threats made by the applicant for an innovation patent or the patentee of an uncertified innovation patent

(2)   If an application under section 128 for relief relates to threats made in respect of an innovation patent that has not been certified or an application for an innovation patent, the court may grant the application the relief applied for.

Courts power to grant relief in respect of threats made by the patentee of certified innovation patent

(3)   If an application under section 128 for relief relates to threats made in respect of a certified innovation patent, the court may grant the applicant the relief applied for unless the respondent satisfies the court that the acts about which the threats were made infringed, or would infringe, a claim that is not shown by the applicant to be invalid.

Schedule 1   **Dictionary**

     certified, in respect of an innovation patent other than in section 19, means a certificate of examination issued by the Commissioner under paragraph 101E(e) in respect of the patent

AN IOT BASED SELF PHASED ANALYSIS OF
ADVERSE EFFECTS IN COVID RECOVERED PATIENTS

FIELD OF INVENTION

[0001] The present invention relates to the field of support system for analysing adverse effects in coronavirus recovered patients.

[0002] The invention has been developed primarily for use as a self-decision support system to analyse the adverse effects in coronavirus recovered patients, and will be described hereinafter with reference to this application. However, it will be appreciated that the invention is not limited to this particular field of use.

BACKGROUND OF INVENTION

[0003] Background the description includes information that may be useful in understanding the present invention. It is not an admission that any of the information provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[0004] The pandemic such as COVID 19 is a curse to the universe since it has an adverse impact not only on the human population but also on the global economy. As far as a pandemic is considered it's not only important to avoid the spread of the disease and invent medicines to control it but should also concentrate on the side effects that may shoot up in COVID recovered patients.

[0005] As far as COVID 19 is taken into account there is a large gap that needs to be filled to analyze and understand COVID 19 fully & thoroughly. The most important thing is to study the adverse effects of COVID 19 after getting treated, since the treatment that has been given to COVID-infected persons are not therapeutic but random. Thus, there is a need to analyze and identify the adverse effects of COVID 19 disease.

[0006] A number of different types of patient database monitoring systems are known in the prior art. For example, the following patents are provided for their supportive teachings and are all incorporated by reference.

[0007] US20050267850A1 A method for using machine learning to solve problems having either a "positive" result (the event occurred) or a "negative" result (the event did not occur), in which the probability of a positive result is very low and the consequences of the positive result are significant. Training data is obtained and a subset of that data is distilled for application to a machine learning system. The training data includes some records corresponding to the positive result, some nearest neighbors from the records corresponding to the negative result, and some other records corresponding to the negative result. The machine learning system uses a co-evolution approach to obtain a rule set for predicting results after a number of cycles. The machine system uses a fitness function derived for use with the type of problems, such as a fitness function based on the sensitivity and positive predictive value of the rules. The rules are validated using the entire set of training data.

[0007] The above information is presented as background information only to assist with an understanding of the present disclosure. No determination has been made, no the assertion is made, and as to whether any of the above might be applicable as prior art with regard to the present invention.

[0008] In view of the foregoing disadvantages inherent in the known types of patient monitoring system during the high impact of a pandemic such as COVID-19 now present in the prior art, the present invention provides an improved system. As such, the general purpose of the present the invention, which will be described subsequently in greater detail, is to provide a new and improved machine learning-based technique to monitor the possible side effects that have all the advantages of the prior art and none of the disadvantages.

SUMMARY OF INVENTION

[0009] It is an object of the invention to overcome or ameliorate at least one of the disadvantages of the prior art, or to provide a useful alternative.

[0010] It is an object of the invention to, in a preferred form, to provide a self-decision support system to analyse the adverse effects in coronavirus recovered patients.

[0011] In view of the foregoing disadvantages inherent in the known types of system for monitoring the adverse effects in COVID recovered patients now present in the prior art, the present the invention provides an improved machine learning technique. As such, the general purpose of the present invention, which will be described subsequently in greater detail is to provide a new and improved system to analyze the databases of COVID recovered patients and identify for the possible side effects that may erupt in the near future which has all the advantages of the prior art and none of the disadvantages.

[0012] An aspect of the proposed invention is to conduct an extensive study about the possible side effects of COVID recovered patients. It is essential to identify and analyses the various factors responsible for causing damages to the vital organs of a human body. Since there exists no definite or therapeutic treatment for COVID 19, it is essential to at least concentrates on side effects that may arise due to the randomized COVID 19 treatment.

[0013] According to an aspect of the invention there is provided an IOT system for self-phased analysis of adverse effects in COVID recovered patients, the system comprising a plurality of primary databases, a centralized database unit, a machine learning system along with predictive algorithm and a cloud server.

[0014] Preferably, each primary database has a primary node of data collected from various hospitals, including data related to important heart parameters of COVID recovered patients.

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[0015] Preferably, the centralized database includes collective data obtained after clustering and classifying the data from the plurality of primary databases.

[0016] Preferably, the machine learning system compresses the datasets from the centralized database with the trained data sets and feed the same output to the prediction algorithm to obtain suggestions and conclusions.

[0017] Preferably, the cloud server is used to establish and communicate the transfer of data between a plurality of database and centralized database as well.

[0018] Preferably, the system creates a database and use this database over machine learning techniques to analyse the conditions and parameters of various patients.

[0019] The proposed invention is implemented using machine learning techniques to study and compare the trained data set with the data sets that are collectively obtained from various hospitals. The predictive algorithm which is designed will cluster and classify the data sets to give predictions regarding possible side effects of COVID 19 disease. The invention will act as a preventive measure by predicting the possible side effects that are imported on vital organs and thus take effective steps to minimize or control them. This approach will also help to decrease the morality take to a greater extent.

[0020] An aspect of the invention is that the databases of CVID recovered patients are collected from various hospitals and stored as a plurality of primary databases.

[0021] Another important aspect of the invention is that the data sets from the primary databases are transferred to the classified database. In the classified database, the data is clustered using the K-means algorithm and classified as well.

[0022] An aspect of the said invention is that the clustered data sets from the centralized database are compared and contrasted in the machine learning programmed system along with trained data set and generate suggestions.

[0023] An aspect of the said invention is that the predictive algorithm in the machine learning system will predict the possible side effects in the COVID recovered patients by alerting the medical staff so that morality due to the side possible side effects of COVID 19 treatment can be reduced drastically

[0024] In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

[0025] These together with other aspects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the disclosure. For a better understanding of the invention, its operating advantages and the specific aspects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

BRIEF DESCRIPTION OF DRAWINGS

[0026] The invention will be better understood and aspects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

FIG. 1 illustrates the schematic view of an IOT based self-phased analysis of adverse effects in COVID recovered patients, according to the embodiment herein.

FIG. 2 illustrates the flow diagram of an IOT based self-phased analysis of adverse effects in COVID recovered patients, according to the embodiment herein.

DETAILED DESCRIPTION OF DRAWINGS

[0027] An IOT based self-phased analysis of adverse effects in COVID recovered patients is to implement a self-decision support system to analyse the adverse effects of COVID 19. It's based on machine learning techniques that utilize trained data set to analyse the various conditions and parameters of COVID recovered patients. The data sets are collected from various hospitals and a predictive algorithm is applied to these data sets to obtain suggestions and alerts. This invention will help to reduce the mortality rate in COVID recovered patients that results as a consequence in COVID recovered patients.

[0028] In the following detailed description, reference is made to the accompanying drawings which form a part hereof, and in which is shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that the embodiments may be combined, or that other embodiments may be utilized and that structural and logical changes may be made without departing from the spirit and scope of the present invention. The following detailed description is, therefore, not to be taken in a limiting sense and the scope of the present invention is defined by the appended claims and their equivalents.

[0029] While the present invention is described herein by way of example using several embodiments and illustrative drawings, those skilled in the art will recognize that the

invention is neither intended to be limited to the embodiments of drawing or drawings described nor intended to represent the scale of the various components. Further, some components that may form a part of the invention may not be illustrated in certain figures, for ease of illustration, and such omissions do not limit the embodiments outlined in any way. It should be understood that the drawings and detailed description thereto are not intended to limit the invention to the particular form disclosed, but on the contrary, the invention covers all modification/s, equivalents, and alternatives falling within the spirit and scope of the present invention as defined by the appended claims. The headings are used for organizational purposes only and are not meant to limit the scope of the description or the claims. As used throughout this description, the word "may" be used in a permissive sense (i.e., meaning having the potential to), rather than the mandatory sense (i.e., meaning must).

[0030] Further, the words "a" or "a" mean "at least one" and the word "plurality" means one or more unless otherwise mentioned. Furthermore, the terminology and phraseology used herein is solely used for descriptive purposes and should not be construed as limiting in scope. Language such as "including," "comprising," "having," "containing," or "involving," and variations thereof, is intended to be broad and encompass the subject matter listed thereafter, equivalents, and any additional subject matter not recited, and is not intended to exclude any other additives, components, integers, or steps. Likewise, the term "comprising" is considered synonymous with the terms "including" or "containing" for applicable legal purposes. Any discussion of documents, acts, materials, devices, articles, and the like are included in the specification solely for the purpose of providing a context for the present invention.

[0031] In this disclosure, whenever an element or a group of elements is preceded with the transitional phrase "comprising", it is understood that we also contemplate the same element or group of elements with transitional phrases "consisting essentially of, "consisting",

"selected from the group consisting of", "including", or "is" preceding the recitation of the element or group of elements and vice versa.

[0032] The proposed invention is an extensive study to identify and analyses the possible side effects of COVID 19 since there is no difference or therapeutic treatment for coronavirus disease yet. It is always important to concentrate on analyzing the possible side effects as well rather than just concentrating on the invention of vaccination or therapeutic medicine or treatment. In the proposed invention, databases of COVID recovered patients are used to analyzing and identifying the side effects that may erupt in COVID patients.

[0033] The databases of COVID recovered patients are collected from various hospitals across the cities and stored on primary databases. The data sets from the primary databases are sent to the centralized database unit for the purpose of clustering and classification. The clustering is done using the K-means clustering algorithm. The clustered datasets are then compared with the trained dataset that is generated using machine learning techniques and stored on the machine learning programming system. The resulting comparison will give hints regarding the possible side effects that may occur in the near future.

[0034] Reference will now be made in detail to the exemplary embodiment of the present disclosure. Before describing the detailed embodiments that are in accordance with the present disclosure, it should be observed that the embodiment resides primarily in combinations arrangement of the system according to an embodiment herein and as exemplified in FIG. 1.

[0035] FIG. 1 illustrates the schematic view of an IOT based self-phased analysis of adverse effects in COVID recovered patients. An IOT based self-phased analysis of adverse effects in COVID recovered patients 100 the proposed system 100 includes a collection of data associated with patients who are recovered from COVID 19. These databases are stored on a

plurality of primary databases 101a,101b, 101c, and so on. The datasets from the primary database 101a, 101b, 101c are transferred to the centralized database unit 102. The datasets from the centralized databases unit 102 are compared with the trained datasets that are trained using machine learning techniques that are programmed on the machine learning programing system 103. Cloud server 104 will monitor the entire system 100 and also saves the information regarding the activities of the data 100.

[0036] FIG. 2 illustrates the flow diagram of an IOT based self-phased analysis of adverse effects in COVID-19 recovered patients. The parameters related to the patients who are recovered from COVID 19 are collected from various hospitals and stored on a number of databases. These data are then transferred to the centralized database unit for the purpose of clustering using the K-means algorithm and classifying the data based on certain categories.

[0037] The clustered and classified data are compared with trained datasets of a machine learning programmed system. Based on these data the suggestions and conclusion are drawn.

[0038] In the following description, for the purpose of explanation, numerous specific details are set forth in order to provide a thorough understanding of the arrangement of the system according to an embodiment herein. It will be apparent, however, to one skilled in the art that the present embodiment can be practiced without these specific details. In other instances, structures are shown in block diagram form only in order to avoid obscuring the present invention.

WE CLAIM

1. An IOT system for self-phased analysis of adverse effects in COVID recovered patients, the system comprising a plurality of primary databases, a centralized database unit, a machine learning system along with predictive algorithm and a cloud server.

2. The system according to claim 1, wherein each primary database has a primary node of data collected from various hospitals, including data related to important heart parameters of COVID recovered patients.
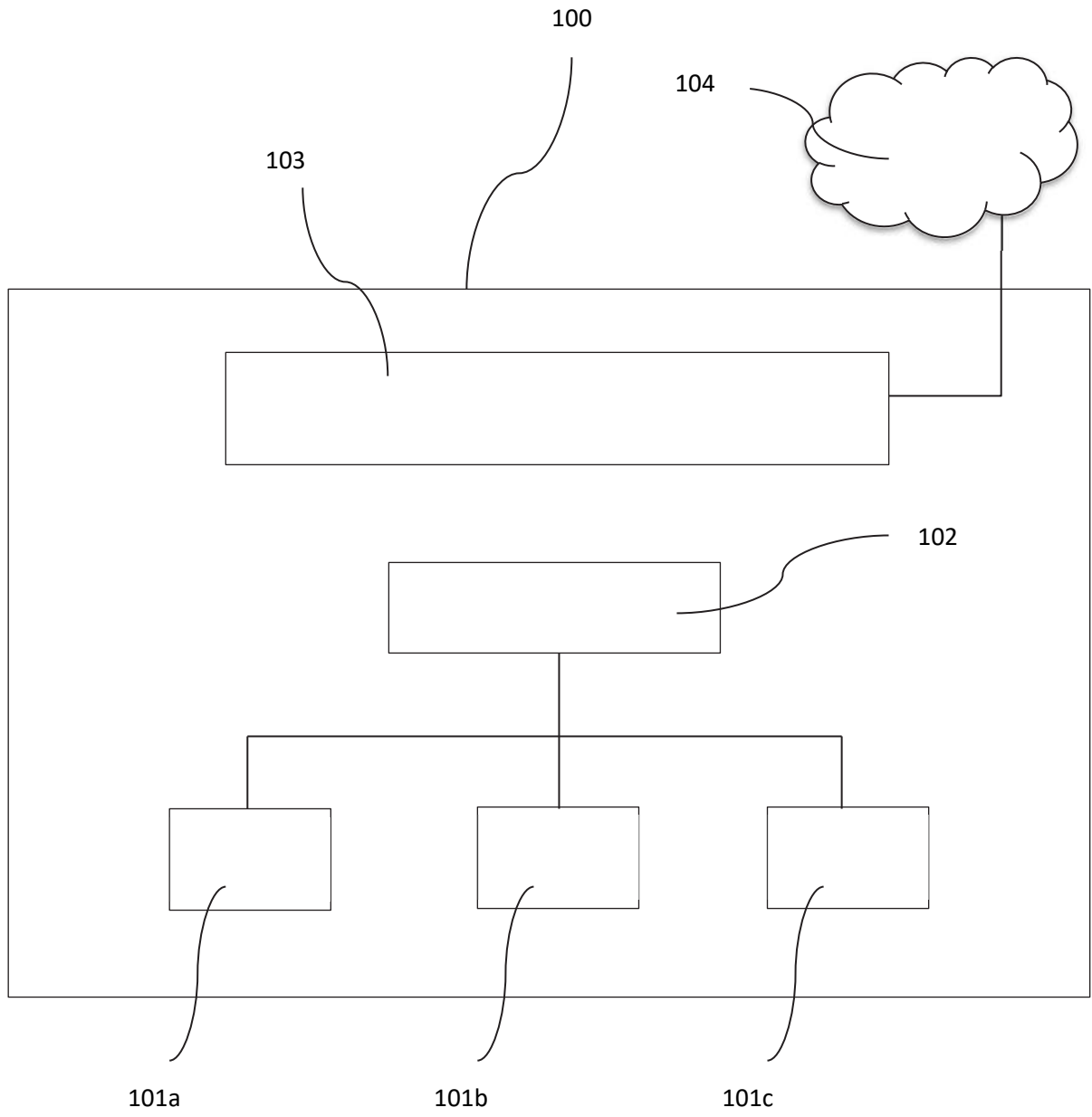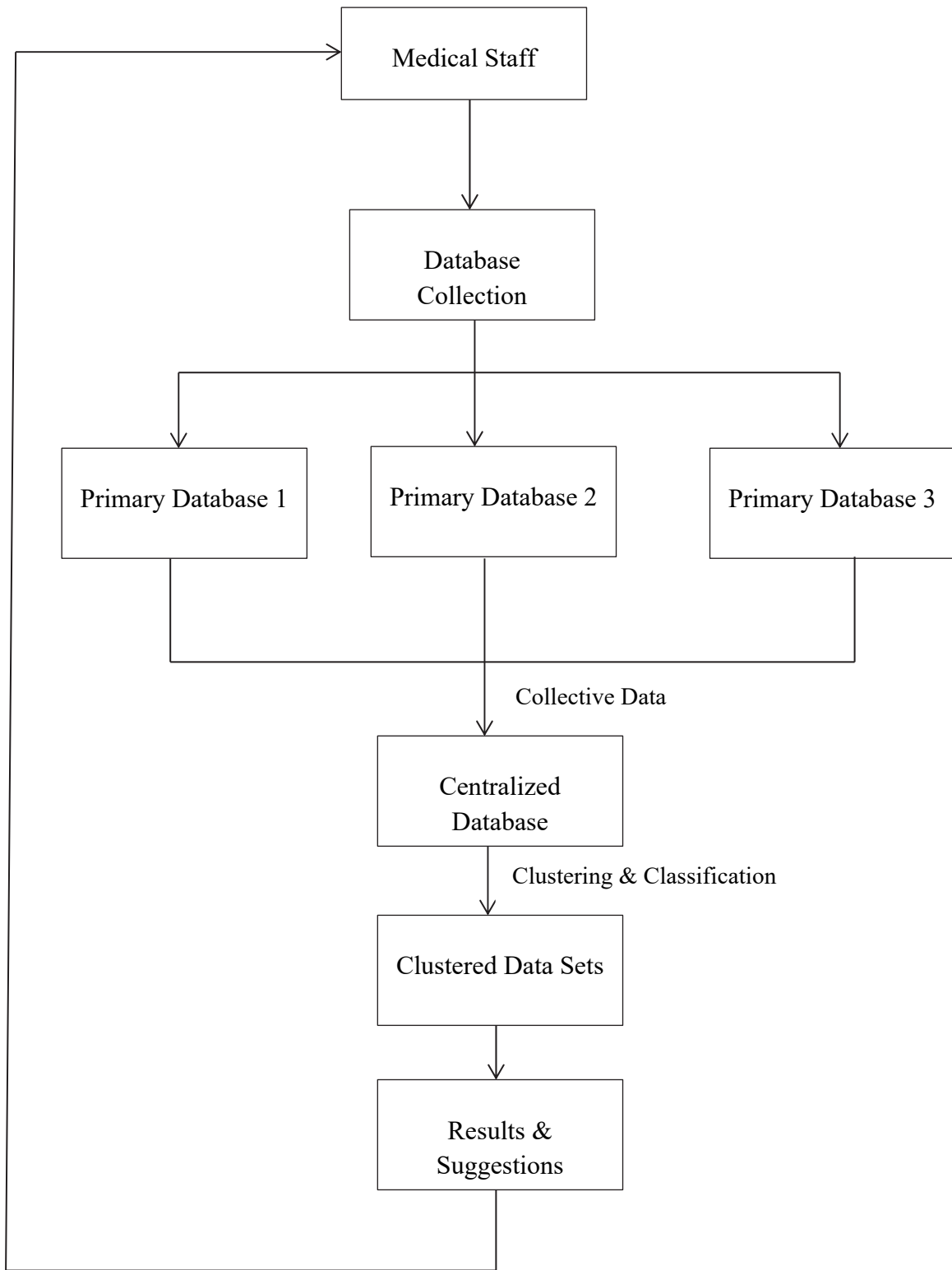
3. The system according to any one of the preceding claims, wherein the centralized database includes collective data obtained after clustering and classifying the data from the plurality of primary databases.

4. The system according to any one of the preceding claims, wherein the machine learning system compresses the datasets from the centralized database with the trained data sets and feed the same output to the prediction algorithm to obtain suggestions and conclusions.

5. The system according to any one of the preceding claims, wherein the cloud server is used to establish and communicate the transfer of data between a plurality of database and centralized database as well.

ABSTRACT

An IOT system for self-phased analysis of adverse effects in COVID recovered patients. The system comprising a plurality of primary databases, a centralized database unit, a machine learning system along with predictive algorithm and a cloud server. Each primary database has a primary node of data collected from various hospitals, including data related to important heart parameters of COVID recovered patients.

100

104

103

102

101a   101b   101c

FIG. 1

FIG. 2

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202141047328 A

(19) INDIA

(22) Date of filing of Application :19/10/2021

(43) Publication Date : 29/10/2021

(54) Title of the invention : Smart Application using Cloud-Based IoT for Night Vision Patrolling Robot

(51) International classification	:A61K0035583000, G05D0001020000, G07C0001200000, G06K0009000000, B25J0019020000
(86) International Application No Filing Date	:PCT// / :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Security patrolling robot with a night vision camera is utilized to secure any site. The robotic vehicle has a night vision camera and sound sensors and moves at predetermined intervals. It uses a predefined line to follow when patrolling. When sound is detected, it comes to a halt at points before moving on to the next. The system uses infrared-based path-following technology to patrol the designated area. It monitors each area with a 360-degree rotating HD camera for any trespassing. It can listen in on the surrounding noise. Any sound is recognized once the firm has closed, and it begins travelling towards the sound on a predetermined course. It then uses its camera to examine its surroundings for any human faces. As soon as sound or a human face is detected, it records and transmits photos of the scene. We're utilizing IOT gecko to receive and display sent photographs, as well as alert sounds, to the user. As a result, we proposed a completely self-contained security robot that works around the clock and patrols large areas to ensure the facility's safety. These images are then supplied to the user in real time for analysis, and if any problems are found, a manual alarm is triggered. Robot patrolling is utilized in military zones, hospitals, shopping malls, Restricted Zones, Industrial Zones, and Agricultural Zones, to name a few.

No. of Pages : 5 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :23/06/2022

(21) Application No.202241035967 A

(43) Publication Date : 01/07/2022

(54) Title of the invention : COLLABORATE FRAMEWORK BASED ON SOFTWARE DEFINED NETWORK IN MANET

(51) International classification	:H04W0084180000, H04L0029060000, H04L0029080000, H04W0040240000, H04W0016220000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure 3 Create a novel network model for mobile ad hoc network (MANET) nodes and actors in wireless sensor networks to collaborate on event processing. There are two stages in the development of distributed algorithms: setup and negotiation. The first uses weighted proportional max-min fairness to initially allocate MANET nodes across event zones, whereas the latter uses a market-based method to re-distribute the number of MANET nodes based on existing and new events. A detection technique for malicious packet dropping attacks in MANETs. The mechanism of the suggested approach is Collaborative Convotutional Neural Network (CCNN), which is based on the reputation value computed for that node by its neighbors. A node's reputation value is determined by its network packet forwarding behavior. The reputation information is collected, saved, and transferred between nodes before being calculated under various scenarios. A network simulator was used to test the proposed protocol. The simulation results demonstrate the effectiveness of its performance. Even in the presence of cryptographic procedures, our method incurs negligible network bandwidth and latency costs. Moreover, we demonstrate that the protection is still effective in the presence of misbehaving nodes and routing changes caused by mobility. While further research is needed to thoroughly evaluate our method, we feel that the concept of collaborative security in MANETs is a potential future area.

No. of Pages : 5 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :13/04/2022

(21) Application No.202241022039 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : MACHINE LEARNING FOR CLOUD SECURITY A SYSTEMATIC REVIEW

(51) International classification	:H04L0029060000, H04L0029080000, G16B0030000000, G06N0020000000, G06Q0020040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure - 3 The prominence and use of Cloud registering is expanding quickly. Few organizations are putting resources into this field either for their own utilization or to give it as a help to other people. One of the consequences of Cloud advancement is the rise of different security issues for both the industry and shopper. The approaches to get Cloud is by utilizing Machine Learning (ML). ML procedures have been utilized in different manners to forestall or distinguish assaults and the security holes on the Cloud. Examinations and the consequences of the Systematic Literature Review are ordered into three primary exploration regions: the various kinds of Cloud security dangers, ML methods utilized, and the exhibition results. By using KDD cup dataset as the input we will identify the attacks like DOS, DDOS, etc., we are using algorithms like AODE, j48, decision stump. Clustering can be used to analyse the security of cloud. It is easy to improve their proposed work by adding more features or enable it to detect more types of

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202241022043 A

(19) INDIA

(22) Date of filing of Application :13/04/2022

(43) Publication Date : 06/05/2022

(54) Title of the invention : DATA INTEGRITY AND SECURED DATA ANALYSIS FOR CORPORATE MANAGEMENT

(51) International classification	:G06Q0010060000, G06Q0010100000, H04L0029060000, G06Q0050220000, G06Q0040000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure 3 The Multiple Relationship Management System is a complex system which some organisations consider to be useful in improving organisation performance. The major objectives of acquiring MRM System are broadly classified into two categories namely : Technical gains and business gains. Technical gains mostly deal with replacing legacy systems, improving data integrity and improving security. Business gains are classified as operational benefits and strategic benefits. Operational benefits include; improved business processes; data integrity cost reduction; ease of management of organisation; improved communication; accurate decision based on data, improved information availability and improved communication; accurate decision making based on data, improved information availability and improved production. The full potential of these systems can only be realised only if they are successfully implemented. However, the implementation process is cost effective and time consuming, and thus requires careful planning and organisation. If successfully implemented, the MRM system provides many benefits to those organisations that adopt them. Implementing a comprehensive system not only provides access to important data, this also enables a better process for collecting and analysing data. Implementing an MRMs suite across departments means your organisation has a single, unified reporting system for every process. By having a single source of truth, an MRMs system can readily,generate valuable reports and analytics at any time.

(54) Title of the invention : ONLINE REAL ESTATE MANAGEMENT SYSTEM

(51) International classification	:G06Q0050160000, B60R0005040000, A63F0013300000, G06F0016510000, E05B0019000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
The approach to this idea involves the perfect solution to the issues and constraints that other real estate services have. The purpose of this system is to establish an interactive web site that allows advertisers, buyers and sellers to meet their needs on-line.Using this system, users can easily buy or sell their assets without visiting dealers' offices every time. When a user (seller or buyer) wants to advertise for an asset, could easily do it using this On-line Real Estate service.They also don't take up a lot of room for their operators. They help buyers to make an informed decision by providing a comparison of properties prices/ features within the same locality which makes it easy to possess a dream property.They not only list properties but also educate, inform, and empower their clients with the knowledge necessary in making smart decisions about real estate. The biggest advantage of this project is that we can choose from varieties of lands with less efficiency of time.Its also provide a system for online handling of all the . commerce processes like advertising, selling and buying.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION   (21) Application No.202241022961 A

(19) INDIA

(22) Date of filing of Application :19/04/2022   (43) Publication Date : 06/05/2022

(54) Title of the invention : DEEP LEARNING CHANGE DETECTION IN REMOTE SENSING IMAGES USING A CONVOLUTIONAL NEURAL NETWORK

(51) International classification	:G06N0003040000, G06K0009620000, G06K0009000000, G06N0003080000, G06K0009460000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
ANNEXURE3 Deep learning has recently attracted the attentions of many in the field of change detection, and it is expected to continue to do so. Compared to typical hand-crafted featuresbased approaches, it tries to automatically learn high-level features from multiple remote sensing data sets. Deep learning algorithms for change detection can be classified in a variety of ways based on the perspectives that are taken into consideration. Deep learning algorithms for change detection are grouped into three groups in this study based on the learning technique utilised and whether or not training data is available that can be labelled or unlabelled. In the first category, there are fully supervised algorithms, which are methods that learn from a labelled training dataset in order to solve the

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024201 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : ENHANCING VIRTUAL INTRANET SERVER PERFORMANCE IN BOTH ONLINE AND OFFLINE MODE

(51) International classification	:H04L0029060000, G06Q0030020000, H04L0029080000, C02F0001440000, G06F0016957000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
The approach towards the idea is, now a day the peoples are mostly used by the Google search engine. The search engine searches for and identifies items in a database that correspond to keywords or characters specified by the user, used especially for finding particular sites on the World Wide Web. Hence, any keywords have been searched on the Google and as well as Bing. It gets from many kinds of links. In that links may be the same or in different links appeared. In despite of we proposed the method as Searched keyword has been added with the define keyword and special quotes, it gets from lots of links are appeared. We have analyzed to compare the repeated links and stored by using the intranet server or local server.

No. of Pages : 5 No. of Claims : 4

(54) Title of the invention : EMOTIONAL ANALYSIS OF TWEETS

(51) International classification	:H04N0021810000, H04N0021442000, H04N0021478800, G06F0016901000, G06F0016270000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
ANNEXURE-3 This approach involves identifying the human emotions in tweets or any social media text data using deep learning. Social Media Platforms allows an online user to post their feelings, mental state and perspective on any topics. In Natural Language Processing, Emotional Analysis of a text is predicting the human emotions in a text. In this paper, it detects and analyzes sentiment and emotion expressed by people from text in their twitter posts using LSTM Recurrent Neural Network and fast text word embeddings. In this paper, the approach of a model, which can predict the emotions of the tweets. The Model requires a huge dictionary of lexicons which points to different emotions. The training dataset used consists of around forty thousand samples with emotions such as love, hate, anger, happiness, boredom, empty, sadness and surprise. In this paper, it makes use of the deep learning technique LSTM (Long Short-term Memory) Recurrent Neural Network to train the model. In this paper it displays the prediction

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024202 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : COVID 19 FUTURE FORECASTING SYSTEM

(51) International classification	:G07F0017320000, G06Q0030020000, G06Q0010040000, G06N0005040000, B60T0017220000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
The spread of COVID-19 in the whole world has put the humanity at risk. The resources of some of the largest economies are stressed out due to the large infectivity and transmissibility of this disease. The capability of ML models to forecast the number of upcoming patients affected by COVID-19 which is presently considered as a potential threat to mankind. In particular, five standard forecasting models, namely LR, LASSO, SVM, ES, LSTM have been used in this study to forecast the threatening factors of COVID-19. Three types of predictions are made by each of the models, such as the number of newly infected cases, the number of deaths, and the number of recoveries But in the cannot predict the accurate result for the patients. To overcome the issue, Proposed method using the long short-term memory (LSTM) predict the number of COVID-19 cases in next 10 days ahead and effect of preventive measures like social isolation and lockdown on the spread of COVID-19.

No. of Pages : 5 No. of Claims : 3

(54) Title of the invention : NEW FIRMS FOR BIAS ANALYSIS USING NLP MODEL

(51) International classification	:G06Q0040060000, G06Q0030020000, H04B0003230000, A61K0008970000, A61B0001000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Media plays a vital role in influencing decisions and opinions. The bias hidden in lot of online media is targeted approach to spread the propoaganda motives. The goal is to conduct an extensive study and research on editorial news articles provided by online news sites. The news articles are scrapped and uses the state of the art NLP Bias detection -models, a Bias score is allocated to each media. This will help analyze the various metrics for the analysis of bias persistent in our media, which includes bias based on gender, politics, opinion, etc. We therefore study each metric and visualize the results on a Dashboard

No. of Pages : 5 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024225 A

(43) Publication Date : 13/05/2022

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(54) Title of the invention : EMBEDDING SECURE SMS USING IMAGE STEGANOGRAPHY

(51) International classification	:H04N0001320000, G10L0019018000, A61F0002300000, G06Q0020320000, G06Q0020400000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
We propose in this project as image steganography with client server mobile OTP. authentication based secured android application, in this case the users of thisandroid appcan login with theirmobile OTP in the initial state so the user knows who view the SMS and again it shows the password panel for second state of authentication so this android based application will provide the highly secured way of SMS communication via an image steganography Steganography technique can be used in images, a video files or an audio file. Typically, however, steganography is written in characters including hash marking, but its usage within images is better thing from Android based secure data communication. At any rate, Steganography protects from pirating copyrighted materials as well as aiding in unauthorized viewing. Rather than being incomprehensible to an unauthorized third party, as is the case with cryptography, steganography is designed to be hidden from a third party. Not only must the hidden data be discovered- considered a formidable task in and of it-self, it must be encrypted, which can be nearly impossible. One use of steganography includes watermarking which hides copyright information within a watermark by overlaying files not easily detected by the naked eye.

No. of Pages : 4 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024227 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : AI IN IMAGING DATA ACQUISITION, SEGMENTATION AND DIAGNOSIS FOR COVID-19

(51) International classification	:G06T0007000000, G06T0007110000, G06T0007143000, A61B0006030000, G07C0005000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
ABSTRACT Covid-19 is a rapidly spreading viral disease that infects not only humans, but animals are aJso infected because of this disease. The daily life of human beings, their health, and the economy of a country are affected due to this deadly viral disease. Covid-19 is a common spreading disease, and till now, not a single country can prepare a vaccine for COVID-19. A clinical study of COVID-19 infected patients has shown that these types of patients are mostly infected from a lung infection after coming in contact with this disease. Chest x-ray (i.e., radiography) and chest Computed tomography (CT) are a more effective imaging technique for diagnosing lunge related problems. Still, a substantial chest x-ray is a lower cost process in comparison to chest CT. Deep learning is die most successful technique of machine learning, which provides useful analysis to study a large amount of chest x-ray images that can critically impact on screening of Covid-19.This type have taken the PA (posteroanterior) view of chest x-ray scans for covid-19 affected patients as well as healthy patients. After cleaning up the images and applying data augmentation, we have used deep learning-based SVM models for classification and accuracy.

No. of Pages : 5 No. of Claims : 5

(54) Title of the invention : AN ONLINE VM PREDICTION FOR RESOURCE MANAGEMENT USING MULTI OBJECTIVE LOAD BALANCING FRAMEWORK

(51) International classification	:G06F0009500000, H04L0029080000, H04L0012803000, H04W0028080000, A61B0006030000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexurc 3 The workload prediction is one of the variables by which the efficiency and operational cost of a cloud can be improved. Accuracy is the key component in workload prediction and the existing approaches lag in producing accuratcresults. The workload prediction and resource allocation significantly play an important role in production of an efficient cloud environment. The proactive estimation of future workload followed by decision of resource allocation have become a prior solution to handle other in-built challenges like the overloading of physical machines, resource wastage. Quality-of-Services (QoS) violations, load balancing. VM migration and many more. The work presents acomprehensive survey of workload forecasting and predictive resource management models in cloud environment. A conceptual framework for workload forecasting and resource management, categorization of existing machine learning based resources allocation techniques, and major challenges ofinefficient distribution of physical resource distribution are discussed pertaining to cloud computing. Thereafter, a thorough survey of existing state-of-the-art contributions empowering machine learning based approaches in the field of cloud workload prediction and resource management are rendered. Finally, this work explores and concludes various emerging challenges and future research directions concerning elastic resource management in cloud environment.

No. of Pages : 5 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024236 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : SMART HOME SECURITY SYSTEM USING FACE RECOGNITION

(51) International classification	:G06K0009000000, G08B0025000000, H04L0012280000, G08B0013196000, G08B0019000000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure 3 This project have proposed and demonstrated smart home security approach which requires less cost and provide the security to home. Have the system with (he help of face recognition. The real time face recognition allows to detect the stranger at the door and give notification to the owner on his telegram regarding this. Capturing live images from camera and applying different techniques of face detection and face recognition which will reduce manual or traditional work. In solution, by creating interface we generate the dataset. Trained the images using Haar Cascade and LBPH classifier. After completing training it will successfully detect and recognize faces and non faces. This system can be easily altered to be used in other applications like attendance system in schools, colleges and offices and it can also be used in suspects and terrorists identification systems.

No. of Pages : 5 No. of Claims : 5

(54) Title of the invention : CREDIT CARD FRAUD DETECTION USING MACHINE LEARNING

(51) International classification	:G06Q0020400000, G06N0020000000, G06N0005000000, G06N0007000000, G06N0003040000
(86) International Application No 　　Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number 　　Filing Date	:NA :NA
(62) Divisional to Application Number 　　Filing Date	:NA :NA

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(57) Abstract :
Annexure 3 The approach to this idea involves perfect solution to the issues we are facing in day-to-day life on behalf of fraud attempts. There are many kinds of fraud attempts like hacking, skimming etc., Even though many credit card fraud detection tools have been developed, but some tools are may not able to detect more accurately of fraud attempts. Detecting of large number of transaction sets over millions of transactions is still a challenging task using other algorithms. We implement Long Short-Term Model (LSTM). The goal of the LSTM is to improve the accuracy of finding fraud and non-fraud attempts effectively and efficiently. This LSTM system improves the accuracy and efficient detection of fraud transactions. With help machine learning algorithms such as Decision Tree algorithms make a comparison between training dataset and trained dataset. Long Short-Term Model act as a classifier which is used to classify fraud attempts.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024241 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : A PREDICTION APPROACH FOR STOCK MARKET VOLATILITY BASED ON TIME SERIES DATA

(51) International classification	:G06Q0040040000, G06Q0040060000, G06F0003048200, F02D0019060000, G06F0016230000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
Annexure 3 Investors always try to monitor the risks in real time so that the return on investments could be higher. Forecasting helps in safeguarding the trade of securities among the buyers and the sellers as well as elimination of the risks involved. Our project discusses an ARIMA (Auto Regressive Integrated Moving Average) model for prediction of stock market movement. An ARIMA model is a vibrant univariate forecasting method to project the future values of a time series. Our project discusses the forecasting process , various forecasting techniques as well as financial forecasting , Time series analysis and at last data collection and methodology is discussed over. We split the training dataset into train and test sets and we use the train set to fit the model, and generate a prediction for each element on the test set. A rolling forecasting procedure is required given the dependence on observations in prior time steps for differencing and the AR model. To this end, we re-create the ARIMA model after each new observation is received. Finally, we manually keep track of all observations in a list called history that is seeded with the training data and to which new observations are appended at each iteration

No. of Pages : 6 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION   (21) Application No.202241024246 A

(19) INDIA

(22) Date of filing of Application :25/04/2022   (43) Publication Date : 13/05/2022

(54) Title of the invention : INTRUSION DETECTION SYSTEM (IDS)

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(51) International classification : H04L0029060000, G08B0013240000, G06F0021550000, G08B0013220000, G08B0013196000

(86) International Application No / Filing Date : NA / NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number / Filing Date : NA / NA

(62) Divisional to Application Number / Filing Date : NA / NA

(57) Abstract :
An Intrusion Detection System (IDS) is a system that monitors network traffic for suspicious activity and issues alerts when such activity is discovered. It is a software application that scans a network or a system \;or the 'harmful activity or policy breaching. Any malicious venture or violation is normally reported either to an administrator. This integrates outputs from multiple sources and uses alarm filtering techniques to differentiate malicious activity from false alarms. Although intrusion detection systems monitor networks for potentially malicious activity, they are also disposed to false alarms. Hence, organizations need an intrusion detection system to recognize what normal traffic on the network looks like as compared to malicious activity. An IDS is a vital a part of each organisation as day by day the attacks of hackers are getting present day and to prevent the viable breach of confidentiality and integrity of an organization.

No. of Pages : 5 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024249 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : MACHINE LEARNING TECHNIQUES FOR 5G AND 6G

(51) International classification	:G06N0020000000, G06N0003080000, G06N0005040000, G06N0003040000, H04L0012580000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Wireless communication systems play a very crucial role in modern society for entertainment, business, commercial, health and safety applications. These systems keep evolving from one generation to next generation and currently we are seeing deployment of fifth generation (5G) wireless systems around the world. Academics and industries are already discussing beyond 5G wireless systems which will be sixth generation (6G) of the evolution. One of the main and key components of 6G systems will be the use of Artificial Intelligence (AI) and Machine Learning (ML) for such wireless networks. Every component and building block of a wireless system that we currently are familiar with from our knowledge of wireless technologies up to 5G, such as physical, network and application layers, will involve one or another AI/ML techniques. This overview paper, presents an up-to-date review of future wireless system concepts such as 6G and role of ML techniques in these future wireless systems. In particular, we present a conceptual model for 6G and show the use and role of ML techniques in each layer of the model. We review some classical and contemporary ML techniques such as supervised and un-supervised learning, Reinforcement Learning (RL), Deep Learning (DL) and Federated Learning (FL) in the context of wireless communication systems. We conclude the paper with some future applications and research challenges in the area of ML and AI for 6G networks. Network embeddings assigns modes in a network to low dimensional representations and effectively preserves the network structure.Recently,a significant amount of progresses have been made toward this emerging network analysis paradigam.In this survey, we focus on categorizing and then reviewing the current development on network embedding methods, and point out its future research directions. We first summarize the motivation of network embedding.

No. of Pages : 5 No. of Claims : 1

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024258 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : DDOS ATTACK DETECTION USING MACHINE LEARNING

(51) International classification	:H04L0029060000, G06N0020000000, G06N0003080000, G06F0021550000, G06N0005000000
(86) International Application No 　　　Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number 　　　Filing Date	:NA :NA
(62) Divisional to Application Number 　　　Filing Date	:NA :NA

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(57) Abstract :
Software-defined network (SDN) is a network architecture that used to build, design the hardware components virtually. In the traditional network, it's not possible to change dynamically, because it's a fixed connection. SDN is a good approach but still is vulnerable to DDoS attacks. To prevent the DDoS attack, the machine learning algorithm can be used. The DDoS attack is the multiple collaborated systems that are used to target the particular server at the same time. In SDN control layer is in the center that link with the application and infrastructure layer, where the devices in the infrastructure layer controlled by the software. The proposed idea is applying machine learning techniques namely Random Forest Algorithm and Linear Regression Algorithm to detect malicious traffic. Our test outcome will show the better accuracy and detection rate when compared to Decision Tree and Support Vector Machine (SVM) algorithm.

No. of Pages : 5 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024259 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : SVM BASED DETECTION OF PHISHING WEBSITE

(51) International classification	:H04L0029060000, G06K0009620000, H01L0021670000, H04N0003320000, G11C0011160000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
. Phishing is observed as one of the most commonly used social engineering and cyber-attack in today's world. Most users are accessing the services online because of the pandemic, so it has become straightforward for phishers to obtain confidential information and use it maliciously. Phishing is considered as the act of luring end-users into trusting a phishing website as a legitimate website and making them give out sensitive information such as credit card details, personally identifiable information, or passwords. The contents and look of phishing websites look very similar to legitimate websites, prompting people to provide their sensitive data. Phishing was the most common type of cybercrime in 2021. The attack doubled the amount from the previous year leading to several monetary losses and cybersecurity challenges. A machine learning-based approach combining several features to attain the best results to prevent this crime . . was proposed in the work.

No. of Pages : 5 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024261 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : VOICE BASED EMOTION RECOGNITION USING NEURAL NETWORK

(51) International classification	:G06K0009000000, G10L0025630000, G10L0015160000, G10L0025300000, G06N0003040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
This approach has provided a detailed review of the deep learning techniques for SER. Deep learning techniques such as DBM, RNN, DBN, CNN; and AE has been the subject of most research in recent years. These deep learning methods and their layer-wise architectures are briefly elaborated based on the classification of various natural emotion such as happiness, joy, sadness, neutral, surprise, boredom, disgust, fear, and anger. These methods offer easy model training as well as the efficiency of shared weights. Limitations of deep learning techniques include large layer-wise internal architecture, less efficiency for temporally-varying input data and over-learning during memorization of layer-wise information. This approach forms a base to evaluate the performance and limitations of current deep learning techniques. Further, it highlights some promising directions for better SER systems.

No. of Pages : 5 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION   (21) Application No.202241024262 A

(19) INDIA

(22) Date of filing of Application :25/04/2022   (43) Publication Date : 13/05/2022

(54) Title of the invention : CURSOR CONTROL BY HAND GESTURE

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(51) International classification : G06F0003010000, G06F0003048800, G06F0003030000, G06F0003035400, A63B0060100000

(86) International Application No : NA
    Filing Date : NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number : NA
    Filing Date : NA

(62) Divisional to Application Number : NA
    Filing Date : NA

(57) Abstract :
A method for on-screen cursor control without any physical connection to a sensor is presented. Identification of colored caps on the fingertips and their tracking is involved in this work; Different hand gestures can be replaced in place of colored caps for the same purpose. Different operations of mouse controlled are single left click, double left click, right click and scrolling. Various combinations of the colored caps are used for different operations. Range of skin color can be varied in the program in accordance with the person to be used, surrounding lightening conditions. An approximate area ratio that is not being used by the hand in the convex hull is taken after analyzing the program output at different gestures of the hand. This work can be used in various real time applications like cursor control in a computer, android based smart televisions etc. Although there are devices like mouse and laser remotes for the same purpose, this work is so simple so that it reduces the usage of external hardware in such a way. ■

No. of Pages : 5 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024263 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : MEDIA PLAYER BASED ON FACIAL AND HAND GESTURES

(51) International classification	:G06F0003010000, G06K0009000000, G06F0003030000, G06T0007246000, H04N0021236800
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :
The main purpose of the proposed work is to help the user get better experience of using advance media player. Media player can be controlled by using hand gestures recognition and face detection for various features of the media player such as playing the video and pausing when the user is not looking at the screen and controlling functions as volume up and volume down, playing next and previous video. It will help the users to use the video player with ease.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202241024266 A

(19) INDIA

(22) Date of filing of Application :25/04/2022

(43) Publication Date : 13/05/2022

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(54) Title of the invention : A TRUSTED TRADING FRAMEWORK USING BLOCKCHAIN IN ECOMMERCE

(51) International classification	:H04L0009320000, G06Q0030060000, H04L0009060000, H04W0012000000, G06Q0020380000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
With several big data breaches capturing the limelight in recent Years, privacy concerns are weighing heavily on the minds of Internet users worldwide. As these challenges overwhelm sellers, they have been looking for that one technology that is capable of handling all security-related challenges. The perfect solution is block chain, being a decentralized system it brings a host of benefits for the domain. In our proposed system, Block chain creates transparency and achieves consensus-based trust without the need for a central authority. The decentralized ecosystem offers a robust structure that is practically impossible to hack. In turn it enables consumers to connect with companies or other consumers, eliminating middlemen from the process. It also extends the ability to turn insights into immutable assets, allowing superior control of data usage. Hence, it can help enterprises minimize cost implications by up to 90% savings.

No. of Pages : 5 No. of Claims : 5

(54) Title of the invention : CROP HARVEST FORECASTING IN INDIAN AGRICULTURE USING MACHINE LEARNING APPROACHES

(51) International classification	:G06N0020000000, G06N0003080000, G06Q0050020000, G06N0003040000, A01G0009140000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
ANNEXURE 3 A promising study area has been predicting crop production based on environmental, soil, water, and crop characteristics. To extract relevant crop traits for prediction, deep-learning-based algorithms are widely used. Despite the fact that these strategies could address the yield prediction problem, they have the following flaws: Inability to develop a direct non-linear or linear mapping between raw data and crop yield values; and the quality of the derived features has a significant impact on the effectiveness of those models. For the shortcomings, deep reinforcement learning gives guidance and motivation. Deep reinforcement

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024158 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : REAL TIME SIGN LANGUAGE DETECTION USING DEEP LEARNING

(51) International classification	:G06K0009620000, G06K0009000000, G09B0021000000, G06N0003080000, G06N0003040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024159 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : ENHANCED ALGORITHM FOR DETECTING BRAIN TUMOR USING MR IMAGES

(51) International classification	:C12Q0001688600, A61B0006000000, A61B0005000000, G11B0027280000, A61M0005168000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024164 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : SMART RICE PADDY FARMING

(51) International classification	:A01M0007000000, A01G0022220000, G06Q0050020000, A61K0036899000, A01G0007040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

सत्यमेव जयते

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

पेटेंट सं. / Patent No.	:	373127
आवेदन सं. / Application No.	:	201941035581
फाइल करने की तारीख / Date of Filing	:	04/09/2019
पेटेंटी / Patentee	:	Allinnov Research and Development Private Limited

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित PORTABLE AIR CONDITIONER FOR VEHICLES नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 4th day of September 2019 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled PORTABLE AIR CONDITIONER FOR VEHICLES as disclosed in the above mentioned application for the term of 20 years from the 4th day of September 2019 in accordance with the provisions of the Patents Act,1970.

अनुदान की तारीख :
Date of Grant : 29/07/2021

पेटेंट नियंत्रक
Controller of Patent

टिप्पणी – इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, **4th day of September 2021** को और उसके पश्चात प्रत्येक वर्ष मे उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 4th day of September 2021 and on the same day in every year thereafter.

(12) PATENT APPLICATION PUBLICATION   (21) Application No.1438/CHE/2015 A

(19) INDIA

(22) Date of filing of Application :21/03/2015   (43) Publication Date : 30/09/2016

(54) Title of the invention : VEHICLE TRACKING AND CONTROL SYSTEMS

(51) International classification	:G11B 7/00	(71)**Name of Applicant :** **1)Ramya Devi** Address of Applicant :38B, Parasuramnaciker compound, Opp. Mullai nagar, P N Pudur (PO), Coimbatore 641041 Tamil Nadu India **2)S Lokesh**
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(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No	:NA	
Filing Date	:NA	(72)**Name of Inventor :**
(87) International Publication No	: NA	**1)Ramya Devi**
(61) Patent of Addition to Application Number	:NA	**2)S Lokesh**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
A vehicle tracking and control system for controlling one or more vehicles includes a plurality of virtual machines (VMs), each disposed at a predefined distance from each other and including a database for storing one or more particulars of the one or more vehicles, and a VM Subscriber Identity Module (SIM) circuit comprising a VM SIM associated with a unique VM identification number, the VM SIM circuit being configured to exchange one or more messages with a set of vehicles and VMs within a coverage area of corresponding VM, through a cellular network. The vehicle tracking and control system further includes one or more vehicle tracking devices embedded inside the one or more vehicles. Each vehicle tracking device includes a vehicle SIM circuit comprising a vehicle SIM associated with a unique vehicle identification number, and a processing unit configured to estimate a current location of corresponding vehicle; and transmit the current location from the vehicle SIM circuit to a corresponding VM through the cellular network.

No. of Pages : 22 No. of Claims : 10

(54) Title of the invention : IOT, CLOUD COMPUTING BASED INTELLIGENT AUTOMATION AND SAFETY SYSTEM FOR TRANSPORT SECTOR USING WSN

(51) International classification	:H04L0029080000, H04W0004700000, B60R0021000000, B60H0001320000, F41A0017080000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024064 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : WEARABLE BRAIN COMPUTER INTERFACE SYSTEM TO RECOGNIZE HUMAN EMOTIONS AND GESTURE USING SUPERVISED MACHINE LEARNING

(51) International classification	:G06F0003010000, A61B0005000000, G06K0009620000, A61B0005047600, G06K0009000000
(86) International Application No Filing Date	:PCT// :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/02/2022

(21) Application No.202241010316 A

(43) Publication Date : 04/03/2022

(54) Title of the invention : IoT and AI with Cloud Based Identification of Accident-Prone Sites Using Ad-Hoc Networks and Raspberry Pi

(51) International classification	:H04W0084180000, B60K0037020000, G08G0001096700, G07C0005080000, G06F0016950000
(86) International Application No Filing Date	:PCT// :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
IoT and AI with Cloud Based Identification of Accident-Prone Sites Using Ad-Hoc Networks and Raspberry Pi Abstract: Increased vehicle traffic may result in an increase in accidents. Finally, we suggest an intelligent system capable of determining the precise site of an accident in order for emergency services to respond quickly and aid. This document explains how to build a system that includes an OBD-II interface, Trackers, and a microcontroller that acts as an instrument cluster. 'The G-forces experienced by passengers in contact with one another will aid us in deciding whether a given circumstance is an accident or not.' A positive detection initiates additional server-side measures that restrict network traffic and log the incident in a centralised database shared by all setup holders. Another way that this technology may assist emergency responders is by enabling them to arrive at a traffic incident more quickly than they would otherwise.

No. of Pages : 13 No. of Claims : 9

(12) PATENT APPLICATION PUBLICATION (21) Application No.1438/CHE/2015 A

(19) INDIA

(22) Date of filing of Application :21/03/2015 (43) Publication Date : 30/09/2016

(54) Title of the invention : VEHICLE TRACKING AND CONTROL SYSTEMS

(51) International classification	:G11B 7/00	(71)**Name of Applicant :**
(31) Priority Document No	:NA	1)**Ramya Devi**
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(33) Name of priority country	:NA	
(86) International Application No	:NA	2)**S Lokesh**
Filing Date	:NA	(72)**Name of Inventor :**
(87) International Publication No	: NA	1)**Ramya Devi**
(61) Patent of Addition to Application Number	:NA	2)**S Lokesh**
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :
A vehicle tracking and control system for controlling one or more vehicles includes a plurality of virtual machines (VMs), each disposed at a predefined distance from each other and including a database for storing one or more particulars of the one or more vehicles, and a VM Subscriber Identity Module (SIM) circuit comprising a VM SIM associated with a unique VM identification number, the VM SIM circuit being configured to exchange one or more messages with a set of vehicles and VMs within a coverage area of corresponding VM, through a cellular network. The vehicle tracking and control system further includes one or more vehicle tracking devices embedded inside the one or more vehicles. Each vehicle tracking device includes a vehicle SIM circuit comprising a vehicle SIM associated with a unique vehicle identification number, and a processing unit configured to estimate a current location of corresponding vehicle; and transmit the current location from the vehicle SIM circuit to a corresponding VM through the cellular network.

No. of Pages : 22 No. of Claims : 10

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :26/04/2022

(21) Application No.202241024449 A

(43) Publication Date : 13/05/2022

(54) Title of the invention : MODELED REGION OF NON-INTEREST BASED SECURED AUTHENTICATE AND INDEXING OF LUNG COMPUTED TOMOGRAPHY IMAGES

(51) International classification : A61B0006000000, A61B0006030000, G06T0011000000, G06Q0020220000, A61B0006020000	(71)**Name of Applicant :**
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(86) International Application No Filing Date : NA : NA	
(87) International Publication No : NA	
(61) Patent of Addition to Application Number Filing Date : NA : NA	
(62) Divisional to Application Number Filing Date : NA : NA	

(57) Abstract :
Medical images produced from different modalities are stored in image database. These databases should be safely moved over the public network with control viably and Medical images need to be transmitted with the patient's information without altering the image data. Medical image watermarking is a proper strategy utilized for improving security. Furthermore, validation of medical data, which is pivotal and utilized for additional deduction what's more, reference. The task centres on the investigation of medical image watermarking techniques for securing and validating medical data. Moreover, it covers calculation for utilization of water stamping procedure on. The objective of this chapter is to discuss Secured Indexing of Lung CT Image (SILI) which is a secured way of indexing the lung CT images with the patient information. Authentication is provided using the sender's logo information and the secret key is used for embedding the watermark into the host image. Watermark is embedded into the Region of Noninterest (RONI) of the lung CT image. RONI is identified by segmenting the lung tissue from the CT scan image.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :16/03/2021

(21) Application No.202141011050 A

(43) Publication Date : 26/03/2021

(54) Title of the invention : A FAULT TOLERANCE SOLUTION FOR LARGE SCALE WIRELESS SENSOR NETWORKS IN THE CONTEXT OF A PRECISION AGRICULTURE APPLICATION

(51) International classification	:H04W0084180000, G06F0011070000, H04W0040220000, G06F0011140000, H04W0016180000	(71)**Name of Applicant :** 1)Dr. P. VIJAYALAKSHMI Address of Applicant :PROFESSOR, DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, HINDUSTHAN COLLEGE OF ENGINEERING & TECHNOLOGY, VALLEY CAMPUS, POLLACHI HIGHWAY, OTHAKKALMANDAPAM POST, COIMBATORE - 641 032, TAMILNADU, INDIA. Tamil Nadu India 2)Dr. J. NITHYA 3)Dr. J. RAMYA 4)Dr. K. MATHAN 5)Ms. A. REYANA 6)Mr. KRISHNAPRASATH.T 7)Mrs. T. NIVETHITHA 8)Mrs. R. VANITHA 9)Mr. P. SURESH KUMAR 10)Ms. B. AMBIKA (72)**Name of Inventor :** 1) Dr. P. VIJAYALAKSHMI 2)Dr. J. NITHYA 3)Dr. J. RAMYA 4)Dr. K. MATHAN 5)Ms. A. REYANA 6)Mr. KRISHNAPRASATH.T 7)Mrs. T. NIVETHITHA 8)Mrs. R. VANITHA 9)Mr. P. SURESH KUMAR 10)Ms. B. AMBIKA
(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No Filing Date	:NA :NA	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number Filing Date	:NA :NA	
(62) Divisional to Application Number Filing Date	:NA :NA	

(57) Abstract :
In this work, we have proposed a fault tolerance solution for Large-scale wireless sensor arrays in the context of a precision agriculture application. We first proposed a scenario for the deployment of AWSNs for this application using thousands of sensor nodes and relay nodes. These the latter are deployed so as to form regular hexagons. Then, we proposed the SFR-RNR solution (Simultaneous Failure Recovery based on Relay Node Relocation) for the resolution of this problem. This solution uses a redeployment strategy of a number of relay nodes in the damaged area so as to restore connectivity and partially the cover. Finally, we evaluated the performance of our approach proposed by simulation. The performance results associated with our large-scale solution show that the number of relay nodes redeployed following the occurrence of a failure is slightly influenced by the extent of the damaged area. This shows that our solution fits fine to large networks.

No. of Pages : 26 No. of Claims : 9

Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
Government of India

INTELLECTUAL
PROPERTY INDIA
PATENTS I DESIGNS I TRADE MARKS
GEOGRAPHICAL INDICATIONS

Application Details

APPLICATION NUMBER	202111036657
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	13/08/2021
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TITLE OF INVENTION	AN ARTIFICIAL INTELLIGENCE ENABLED CRYPTOGRAPHY BASED FINANCIAL ANALYTICAL TOOL
FIELD OF INVENTION	PHYSICS
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PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	03/09/2021

Application Status

Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
Government of India

(http://ipindia.nic.in/index.htm)

(http://ipindia.nic.in/index.htm)

Application Details

APPLICATION NUMBER	202141047868
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	21/10/2021
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FIELD OF INVENTION	COMPUTER SCIENCE
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PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	03/12/2021

Application Status

Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
Government of India

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PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

(http://ipindia.nic.in/index.htm)

Application Details

APPLICATION NUMBER	202241023381
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	20/04/2022
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TITLE OF INVENTION	IOT WITH ARTIFICIAL INTELLIGENCE BASED READY ENERGY AUTONOMOUS PARKING SENSORS DEVICE USING MACHINE LEARNING
FIELD OF INVENTION	COMPUTER SCIENCE
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PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	13/05/2022

Application Status

APPLICATION STATUS	Awaiting Request for Examination

			View Documents

➡ Filed   ➡ Published   ➡ RQ Filed   ➡ Under Examination

➡ Disposed
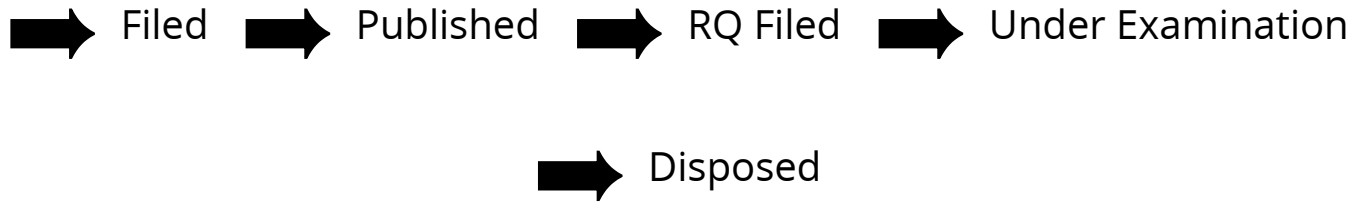
In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in

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Ref: 201941053565 dated 23/12/2019

The Controller of Patents
Intellectual Property Office
Chennai 600032

Sub: Submission of Form 5 with respect to Patent Application no. 201941053565 dated 23/12/2019

Respected Sir,

We have filed patent application number 201941053565 dated 23/12/2019, in continuation of that please find attached the following:

1) Form 5 (Copy Already filed vide e-filing)

Please take the above documents on records

Thanking you,

Dated -23/12/2019

Yours faithfully

Vikas Asawat
INPA 1407
Patent Agent – On the behalf of Applicants

FORM 5

THE PATENT ACT, 1970
(39 of 1970)
&
THE PATENTS RULES, 2003

DECLARATION AS TO INVENTORSHIP
[See section 10(6) and rule 13(6)]

1. NAME OF APPLICANT(S) Dr. T. Jesudas, Mr. Lokesh Jesudas, Dr. P. John Augustine, Dr. K. S. Riya, Dr. Sarojini Yarramsetti, Dr. V. Saravanan,

hereby declare that the true and first inventor(s) of the invention disclosed in the complete specification filed in pursuance of my/our application numbered 201941053565 dated 23/12/2019 is/are

2. INVENTOR(S)

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Dated this. 23/12/2019Day of 2019

VIKAS ASAWAT   Signature
PATENT AGENT & ADVOCATE Name of the signatory

3. DECLATRATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BY THE APPLICANT(S) IN THE CONVENTION COUNTRY:-- NOT APPLICABLE

We the applicant(s) in the convention country hereby declare that our right to apply for a patent in India is by way of assignment from the true and first inventor(s).

Dated this. 23/12/2019 Day of 2019

VIKAS ASAWAT   Signature
PATENT AGENT & ADVOCATE   Name of the signatory

4. STATEMENT (to be signed by the additional inventor(s) not mentioned in the application form) **NOT APPLICABLE**

I/We assent to the invention referred to in the above declaration, being included in the complete specification filed in pursuance of the stated application.

Dated this(Final Payment Date): 23/12/2019
                                                        Signature
                                              Name of the signatory
VIKAS ASAWAT
PATENT AGENT & ADVOCATE

COMPLETE SPECIFICATION

10   (See section 10 and rule 13)

"EMERGENCY VEHICLE WARNING SYSTEM AND METHOD FOR

TRAFFIC DECONGESTION AT INTERSECTIONS"

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The following specification describes the invention and the manner in which it is to be performed.

TECHNICAL FIELD OF INVENTION

[0001] The present invention relates to anemergency vehicle warning system and method, in particular toan emergency vehicle warning system and method for traffic decongestion at one or more intersections over a network.

BACKGROUND OF THE INVENTION

[0002] The subject matter discussed in the background section should not be assumed to be prior art merely as a result of its mention in the background section. Similarly, a problem mentioned in the background section or associated with the subject matter of the background section should not be assumed to have been previously recognized in the prior art. The subject matter in the background section merely represents different approaches, which in-and-of-themselves may also be inventions.

[0003] Typically, emergency vehicles require to quickly proceed through traffic congestion so that the chances of survival of a patient or a victim is considerably increased.Rescue of fatal persons is highly important in admitting to the nearest hospitals to save human life. The vehicle population makes the biggest congestion before and after rescuing to admit to the hospital. The ambulance playsa major role in a rescue operation. To provide congestion-free transport facilities for ambulances new technologies must be implemented in the traffic signal junctions.The existing automatic traffic signal system is designed to control and regulate the traffic and there is no provision for congestion-free travel for an ambulance and emergency vehicles. If any emergency vehicle wants to crosses the signal junction the Policeman will manually interrupt the normal signal and made open to pass the vehicles. Therefore, there is a need for an effective, accurate and smart intelligent congestion-free traffic signal system for emergency vehicles at traffic signal junctions and toll plazas.

[0004] The above-mentioned shortcomings, disadvantages, and problems are addressed herein and which will be understood by reading and studying the following specification.

SUMMARY OF THE INVENTION

[0005]   The various embodiments herein provide an emergency vehicle warning system and method for traffic decongestion at one or more intersections over a network.

[0006]   According to an embodiment herein, an emergency vehicle warning system and method for traffic decongestion at one or more intersections over a network. The emergency vehicle warning system includes a Radio-frequency identification (RFID) device, a Radio-frequency identification (RFID) reader device, a receiver device, and a notification device. The Radio-frequency identification (RFID) device is attached to an emergency vehicle to store and to transmit identification data pertaining to the emergency vehicle. The Radio-frequency identification (RFID) reader device is affixed with infrastructure and placed before a predefined distance of the intersections to transmit the identification data indicating an approach and departure of the emergency vehicle. The receiver device is installed at the intersection to receive the identification data from the Radio-frequency identification (RFID) reader device to interrupt a regular signal and opens the regular signal for traffic decongestion to control traffic flow and allow the emergency vehicle to cross a cutoff point placed at the intersections. The notification device is placed at the intersection to initiate an indication signal on receiving the identification data.

[0007]   In an aspect, the one or more intersections are selected from at least one of a traffic signal junction and a toll plaza.

[0008]   In an aspect, the emergency vehicle is selected from at least one of an ambulance, a fire truck, a police car, and a government personnel vehicle.

[0009]   In an aspect, the indication signal is selected from a siren sound and a lighting signal such as a continuous blinking blue light.

[0010] According to an embodiment herein, an emergency vehicle warning method for traffic decongestion at one or more intersections over a network. The emergency vehicle warning method includes a step of storing and transmitting identification data pertaining to an emergency vehicle through a Radio-frequency identification (RFID) device attached to the emergency vehicle. The emergency vehicle warning method includes a step of transmitting the identification data indicating an approach and departure of the emergency vehicle through a Radio-frequency identification (RFID) reader device affixed with infrastructure and placed before a predefined distance of the intersections. The emergency vehicle warning method includes a step of receiving the identification data from the Radio-frequency identification (RFID) reader device through a receiver device installed at the intersection for interrupting a regular signal and opens the regular signal for traffic decongestion for controlling a traffic flow and allowing the emergency vehicle for cross a cutoff point placed at the intersections. The emergency vehicle warning method includes a step of initiating an indication signal on receiving the identification data through the notification device placed at the intersection.

[0011] Accordingly, one advantage of the present invention is that itworks with the existing Radio Frequency Identification (RFID) tags installed with the emergency vehicles and the intersections.

[0012] Accordingly, one advantage of the present invention is that it provides a congestion-free journey for emergency vehicles at various signal junctions and toll plazas.

[0013] Accordingly, one advantage of the present invention is that it allows a caregiver to admit the injured person in the nearest hospital to save him/her by providingthe right treatment at the right time.

[0014] In an aspect, the emergency vehicle warning system and method help to provide immediate treatment for rescued persons. If the traffic signal is under normal process at a signal junction, whenever an ambulance is going for

rescuing or coming with rescued persons it indicates to traffic signal systems before 750 meters to open the signals by interrupting the normal signals. The indication signal is also provided by using a siren sound with a blue light at the signal junction. Whenever the ambulance crosses the cutoff point, the signal is automatically resumed to normal mode.

[0015] Other features of embodiments of the present invention will be apparent from accompanying drawings and from the detailed description that follows.

[0016] Yet other objects and advantages of the present invention will become readily apparent to those skilled in the art following the detailed description, wherein the preferred embodiments of the invention are shown and described, simply by way of illustration of the best mode contemplated herein for carrying out the invention. As we realized, the invention is capable of other and different embodiments, and its several details are capable of modifications in various obvious respects, all without departing from the invention. Accordingly, the drawings and description thereof are to be regarded as illustrative in nature, and not as restrictive.

[0017] In the figures, similar components and/or features may have the same reference label. Further, various components of the same type may be distinguished by following the reference label with a second label that distinguishes among the similar components. If only the first reference label is used in the specification, the description applies to any one of the similar components having the same first reference label irrespective of the second reference label.

[0018] FIG. 1 illustrates a block diagram of the presentemergency vehicle warning system for traffic decongestion at one or more intersections over a network, in accordance with one embodiment of the present invention.

[0019] FIG. 2 illustrates an operational block diagram of the present emergency vehicle warning system for traffic decongestion at one or more intersections over a network, in accordance with one embodiment of the present invention.

[0020] FIG. 3 illustrates a flowchart of the emergency vehicle warning method for traffic decongestion at one or more intersections over a network, in accordance with an alternative embodiment of the present invention.

DETAILED DESCRIPTION

[0021] The present invention is best understoodwith reference to the detailed figures and description set forth herein. Various embodiments have been discussedwith reference to the figures. However, those skilled in the art will readily appreciate that the detailed descriptions provided herein with respect to the figures are merely for explanatory purposes, as the methods and systems may extend beyond the described embodiments. For instance, the teachings presented and the needs of a particular application may yield multiple alternative and suitable approaches to implement the functionality of any detail described herein. Therefore, any approach may extend beyond certain implementation choices in the following embodiments.

[0022] Emergency vehicle warning system and methodare disclosedfor traffic decongestion at one or more intersections over a network. Embodiments of the present invention include various steps, which will be described below. The steps may be performed by hardware components or may be embodied in machine-executable instructions, which may be used to cause a general-purpose or special-purpose processor programmed with the instructions to perform the steps. Alternatively, steps may be performed by a combination of hardware, software, firmware,and/or by human operators.

[0023] Various methods described herein may be practiced by combining one or more machine-readable storage media containing the code according to the present invention with appropriate standard computer hardware to execute the code contained therein. An apparatus for practicing various embodiments of the present invention may involve one or more computers (or one or more processors within a single computer) and storage systems containing or having network access to computer program(s) coded in accordance with various methods described herein, and the method steps of the invention could be accomplished by modules, routines, subroutines, or subparts of a computer program product.

[0024] Although the present invention has been described with the purpose oftraffic decongestion for an emergency vehicle, it should be appreciated that the same has been done merely to illustrate the invention in an exemplary manner and to highlight any other purpose or function for which explained structures or configurations could be used and is covered within the scope of the present invention.

[0025] FIG. 1 illustrates a block diagram of the present emergency vehicle warning system 100 for traffic decongestion at one or more intersections over a network 108, in accordance with one embodiment of the present invention.In an embodiment, the one or more intersections are selected from at least one of a traffic signal junction and a toll plaza. In an embodiment, the emergency vehicle is selected from at least one of an ambulance, a fire truck, a police car, and a government personnel vehicle.

[0026] The emergency vehicle warning system 100 includes a Radio-frequency identification (RFID) device 114, a Radio-frequency identification (RFID) reader device 116, a receiver device 118, and a notification device 120. The Radio-frequency identification (RFID) device 114 is attached to an emergency vehicle to store and to transmit identification data pertaining to the emergency vehicle. The Radio-frequency identification (RFID) reader device 116 is affixed with infrastructure and placed before a predefined distance of the intersections to transmit the identification data indicating an approach and departure of the emergency vehicle. The receiver device 118 is installed at the intersection to receive the identification data from the Radio-frequency identification (RFID) reader device 116 to interrupt a regular signal and opens the regular signal for traffic decongestion to control traffic flow and allow the emergency vehicle to cross a cutoff point placed at the intersections.The notification device 120 is placed at the intersection to initiate an indication signal on receiving the identification data. In an embodiment, the indication signal is selected from a siren sound and a lighting signal such as a continuous blinking blue light.

[0027]   The emergency vehicle warning system 100 includes a server 106 that stores a plurality of instructions to facilitate a driver of the emergency vehicle or a caregiver regarding the traffic decongestion at the intersections. In an embodiment, the server 106 may refer to a computing device or a software framework hosting an application or a software service. In an embodiment, the server 106 may be implemented to execute procedures such as, but not limited to, programs, routines, or scripts stored in one or more memories for supporting the hosted application or the software service. In an embodiment, the hosted application or the software service may be configured to perform one or more predetermined operations. The server 106 may be realized through various types of application servers such as, but are not limited to, a Java application server, a .NET framework application server, a Base4 application server, a PHP framework application server, or any other application server framework.

[0028]   The emergency vehicle warning system 100 includes a database 110 configured to store traffic-related data. In an embodiment, the database 110 may be realized through various technologies such as, but not limited to, Microsoft® SQL Server, Oracle®, IBM DB2®, Microsoft Access®, PostgreSQL®, MySQL® and SQLite®, and the like.

[0029]   Thetraffic-related data is accessed by an administrator through one or more electronic devices 104 (for example, a laptop 104a, a desktop 104b, and a smartphone104c) operably connected over the network 108. Other examples of electronic devices 104, may include but are not limited to a phablet and a tablet. The network 108 may be a wired or a wireless network, and the examples may include but are not limited to the Internet, Wireless Local Area Network (WLAN), Wi-Fi, Long Term Evolution (LTE), Worldwide Interoperability for Microwave Access (WiMAX), and General Packet Radio Service (GPRS).

[0030]   FIG. 2 illustrates an operational block diagram 200 of the present emergency vehicle warning system for traffic decongestion at one or more intersections over a network, in accordance with one embodiment of the present invention.In operation, the receiver device (a traffic signal system) automatically opens the signal junction when an emergency vehicle approaches before 750 meters to the signal junction. Hence by the time the emergency vehicle reaches the signal junction, there is no traffic at signal junctions. The emergency vehicle warning systemfunctions with RFID technology. The emergency vehicles are already affixed with RFID tags by toll plazas that same RFID tags can be used for this emergency vehicle warning system. The active RFID readers are installed before 750 meters of the signal junction and toll plazas. Whenever the ambulance or emergency vehicles are going for rescuing or coming with rescued persons the RFID reader reads the information of the vehicle and it sends the information to the traffic signal system in the traffic signal junction to interrupt the normal signal and to open the signal for congestion-free travel to the ambulance and emergency vehicles. The indication signal is provided in the signal junction by using siren sound and continuous blinking blue light. The siren sound and blinking blue light signal will continue till the ambulance or emergency vehicle crosses a plurality of cutoff points 220a, 220b, 220c, and 220d. The cutoff points 220a, 220b, 220c, and 220d also work with RFID technology and cutoff points 220a, 220b, 220c, and 220dare installed on the other side of the road. The purpose of the cutoff points 220a, 220b, 220c, and 220dprovided in the signal junction to resume or normalize the traffic signals. The siren and blinking blue light are installed in the signal junction are to alert the people that the ambulance or emergency vehicle is coming or going for the rescue operation. Hence, this emergency vehicle warning system would be a better solution for congestion-free travel for Ambulance and Emergency vehicles at signal junctions and toll plazas.

[0031] In an embodiment, the predefined distance is 750 meters whichis based on the normal traffic (vehicle density) the distance is varied based on the traffic conditions. If the 750-meter distance is provided, the traffic is cleared at the signal junction point when the ambulance or emergency vehicle reaches the signal junction point well in advance. The ambulance or emergency vehicle can pass without any congestion/ Jamming/ Blocking. The RFID tags are already affixed on all ambulances and emergency vehicles for tollgate purposes that same tags can be used for this purpose also and it is cost-effective.In an embodiment, an algorithm is developed for identifying the emergency vehicles as well as it communicates to signal junction point to clear the traffic well in advance.

[0032] Typically, RFID tagging uses small radio frequency identification devices to track and identify objects. A conventional RFID tagging device includes a transponder, a scanning antenna, and receiver, often combined into one reader, also known as an interrogator, and a host system application for data collection, processing and transmission.

[0033] FIG. 3 illustrates a flowchart 300 of the emergency vehicle warning method for traffic decongestion at one or more intersections over a network, in accordance with an alternative embodiment of the present invention. The emergency vehicle warning method includes a step 302 of storing and transmitting identification data pertaining to an emergency vehicle through a Radio-frequency identification (RFID) device attached to the emergency vehicle. The emergency vehicle warning method includes a step 304 of transmitting the identification data indicating an approach and departure of the emergency vehicle through a Radio-frequency identification (RFID) reader device affixed with infrastructure and placed before a predefined distance of the intersections. The emergency vehicle warning method includes a step 306 of receiving the identification data from the Radio-frequency identification (RFID) reader device through a receiver device installed at the intersection for interrupting a regular signal and opens the regular signal for traffic

decongestion for controlling a traffic flow and allowing the emergency vehicle for cross a cutoff point placed at the intersections. The emergency vehicle warning method includes step 308 of initiating an indication signal on receiving the identification data through the notification device placed at the intersection.

[0034]   Thus the present system and methodprovide an efficient, simpler and more elegant solution thatworks with Radio Frequency Identification (RFID) technology. All ambulances and the traffic signal junctions must be installed with RFID technology for successful implementation. Whenever the ambulance is going for rescuing or coming with rescued persons the traffic signal is automatically made open for congestion-free travel. In this system, the signal is received from the ambulance when it is 750 meters away from the traffic signal junction and made it is open (signal will be turned on to be Green). The traffic signal is resumed after the ambulance crossing the cutoff point.

[0035]   While embodiments of the present invention have been illustrated and described, it will be clear that the invention is not limited to these embodiments only. Numerous modifications, changes, variations, substitutions, and equivalents will be apparent to those skilled in the art, without departing from the scope of the invention, as described in the claims.

CLAIMS

We claim:

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1. An emergency vehicle warning system for traffic decongestion at one or more intersections over a network, the emergency vehicle warning system comprises:

a Radio-frequency identification (RFID) device attached to an emergency vehicle to store and to transmit identification data pertaining to the emergency vehicle;

10   a Radio-frequency identification (RFID) reader device affixed with an infrastructure and placed before a predefined distance of the intersections to transmit the identification data indicating an approach and departure of the emergency vehicle; and

a receiver device installed at the intersection to receive the identification data

15   from the Radio-frequency identification (RFID) reader device to interrupt a regular signal and opens the regular signal for traffic decongestion to control a traffic flow and allow the emergency vehicle to cross a cutoff point placed at the intersections.

2. The emergency vehicle warning system according to claim 1 comprises a

20   notification device placed at the intersection to initiate an indication signal on receiving the identification data.

3. The emergency vehicle warning system according to claim 1, wherein the one or more intersections are selected from at least one of a traffic signal junction and a toll plaza

25   4. The emergency vehicle warning system according to claim 1, wherein the emergency vehicle is selected from at least one of an ambulance, a fire truck, a police car, and a government personnel vehicle.

5. The emergency vehicle warning system according to claim 1, wherein the indication signal is selected from a siren sound and a lighting signal.

6. An emergency vehicle warning method for traffic decongestion at one or more intersections over a network, the emergency vehicle warning method comprises steps of:

storing and transmitting identification data pertaining to an emergency vehicle through a Radio-frequency identification (RFID) device attached to the emergency vehicle;

transmitting the identification data indicating an approach and departure of the emergency vehicle through a Radio-frequency identification (RFID) reader device affixed with an infrastructure and placed before a predefined distance of the intersections; and

receiving the identification data from the Radio-frequency identification (RFID) reader device through a receiver device installed at the intersection for interrupting a regular signal and opens the regular signal for traffic decongestion for controlling a traffic flow and allowing the emergency vehicle for cross a cutoff point placed at the intersections.

7. The emergency vehicle warning method according to claim 6 comprises a step of initiating an indication signal on receiving the identification data through notification device placed at the intersection.

8. The emergency vehicle warning method according to claim 6, wherein the one or more intersections are selected from at least one of a traffic signal junction and a toll plaza

9. The emergency vehicle warning method according to claim 6, wherein the emergency vehicle is selected from at least one of an ambulance, a fire truck, a police car, and a government personnel vehicle.

10. The emergency vehicle warning method according to claim 6, wherein the indication signal is selected from a siren sound and a lighting signal.

5   Dated this 23/12/2019

10

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Patent Agent & Advocate
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On Behalf of Applicant
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EMERGENCY VEHICLE WARNING SYSTEM AND METHOD FOR TRAFFIC DECONGESTION AT INTERSECTIONS

ABSTRACT

5   An emergency vehicle warning system and method for traffic decongestion at one or more intersections over a network. The emergency vehicle warning system comprises a Radio-frequency identification (RFID) device, a Radio-frequency identification (RFID) reader device, and a receiver device. The Radio-frequency identification (RFID) device is attached to an emergency vehicle

10 to store and to transmit identification data pertaining to the emergency vehicle. The Radio-frequency identification (RFID) reader device is affixed with infrastructure and placed before a predefined distance of the intersections to transmit the identification data indicating an approach and departure of the emergency vehicle. The receiver device is installed at the intersection to receive

15 the identification data from the Radio-frequency identification (RFID) reader device to interrupt a regular signal and opens the regular signal for traffic decongestion to control traffic flow and allow the emergency vehicle to cross a cutoff point placed at the intersections.**The most illustrative drawing: FIG. 2.**

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :13/04/2022

(21) Application No.202241022045 A

(43) Publication Date : 29/04/2022

(54) Title of the invention : CONVERGING BLOCKCHAIN FOR ORGAN DONATION

(51) International classification	:H04L0009060000, H04L0009320000, H04L0009300000, G06F0021640000, G06Q0020380000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
This approach involves a web-based Application which uses FIFO approach to select an organ donor for each genuine patient requiring a transplant and if there is an emergency case then the priority is given to that patient. It provides an efficient platform for potential organ donor and those who need the organs to connect. It uses Blockchain as its underlying Technology. Blockchain Technology is as it is known a decentralized and distributed network which stores records that are immutable as in cannot be altered once saved. Blockchain Technology uses digital documents which are digitally signed by the user so that they are time stamped at the time of saving the document and cannot be changed after that. It uses smart contracts, for securing the data we are using RSA and SHA-256 Algorithms. RSA (Rivest-Shamir-Adleman) is a public-key cryptosystem that is widely used for secure data transmission. In a public-key cryptosystem, the encryption key is public and distinct from the decryption key, which is kept secret (private). SHA 256 is a part of the SHA 2 family of algorithms, where SHA stands for Secure Hash Algorithm, the hash value will always be 256 bits. It moderates the creation and management of addresses, and is also used for transaction verification. The proposed system digitalizes the process of Organ Donation, enhances the existing system by handling endless data and provides a transparent as well as cost efficient system. The proposed System is faster, more secure and more scalable. The organ receiver and donor can be sure of the authenticity of the other without hesitation. The Organ Donation System does not allow any third-party access.-

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :13/04/2022

(21) Application No.202241022046 A

(43) Publication Date : 29/04/2022

(54) Title of the invention : AUTONOMOUS DETECTION BASED COVERED TIMING CHANNELS

(51) International classification	:H04L0029060000, G06F0021550000, G06N0020000000, G06F0021620000, H04W0012120000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
With the rapid growth of data exfiltration carried out by cyber attacks, Covert Timing Channels (CTC) have become an imminent network security risk that continues to grow in both sophistication and utilization.These types of channels utilize inter-arrival times to steal sensitive data from the targeted networks.CTC detection relies increasingly on machine learning techniques, which utilize statistical-based metrics to separate malicious (covert) traffic flows from the legitimate (overt) ones,Covert channels provide effective methods to exfiltrate sensitive .data from the targeted networks. This type of exfiltration is particularly effective because it uses existing system resources, which were not originally designed to transmit sensitive data for the purpose of communication.By doing this, the transfer of the covert data becomes undetectable by traditional detection methods such as firewalls and intrusion detection systems.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :13/04/2022

(21) Application No.202241022036 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : OBJECT DETECTION AND RECOGNITION OF SCENE IMAGES USING FR-CNN AND KERAS CLASSIFIER

(51) International classification	:G06K0009000000, G06K0009620000, G06N0003040000, G06K0009460000, G06K0009200000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure 3 The approach to this idea involves solution to the issues and constraints other object detection technologies have faced. Different technologies of object detection as well as object recognition has been included to improve the accuracy of the system FRCNN , a Convolutional Neural Network has been used inorder to implement the object detection , Even though some other models like YOLO has been innovated to do the object detection in the recent years their accuracy is not as good as their predecessor FRCNN. Our model scans the whole image in the form of a grid and produces feature map with the help of FRCNN, with the assistance of which an object is detected. Once that is done the same is passed into an image classification model which labels the image and

provides the confidence score along with it. Confidence score helps the user in analyzing and sorting out which he can accept and which he can reject. The model works on the basis of training dataset provided. More the data given to the model more objects it can recognize . It has got application in most of the fields where a user needs to understand the different types of object present in an image and what are those image as well (Based on the training set provided).

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :13/04/2022

(21) Application No.202241022039 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : MACHINE LEARNING FOR CLOUD SECURITY A SYSTEMATIC REVIEW

(51) International classification	:H04L0029060000, H04L0029080000, G16B0030000000, G06N0020000000, G06Q0020040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure - 3 The prominence and use of Cloud registering is expanding quickly. Few organizations are putting resources into this field either for their own utilization or to give it as a help to other people. One of the consequences of Cloud advancement is the rise of different security issues for both the industry and shopper. The approaches to get Cloud is by utilizing Machine Learning (ML). ML procedures have been utilized in different manners to forestall or distinguish assaults and the security holes on the Cloud. Examinations and the consequences of the Systematic Literature Review are ordered into three primary exploration regions: the various kinds of Cloud security dangers, ML methods utilized, and the exhibition results. By using KDD cup dataset as the input we will identify the attacks like DOS, DDOS, etc., we are using algorithms like AODE, j48, decision stump. Clustering can be used to analyse the security of cloud. It is easy to improve their proposed work by adding more features or enable it to detect more types of

attacks. The support vector machines are the proposed work which is more efficient and accurate when combined with j48 we propose a hybrid algorithm for faster , efficient , and more accurate results for the identification of ddos attacks with the basic feature selections.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION   (21) Application No.202241022041 A

(19) INDIA

(22) Date of filing of Application :13/04/2022   (43) Publication Date : 06/05/2022

(54) Title of the invention : DEVICE DISCOVER IN D2D COMMUNICATION WITH PSO IN STATIC GRAPH OUTPUT

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(57) Abstract :
ANNEXURE3 Device to Device (D2D) communication was first considered in out-band to manage energy issues in the wireless sensor networks. The primary target was to secure information about system topology for successive communication. Now the D2D communication has been legitimated in in- band by the networks. To initiate D2D communication, Device Discovery (DD) is a primary task and every D2D application benefits from DD as an end-to-end link maintenance and data relay when the direct path is obstructed. For in-band D2D, DD in a single cell and multi-cell, and dense area is not legitimated properly, causing latency, inaccuracy, and energy consumption. The DD is facing new difficulties because of the mobility of the devices over static systems, and the mobility makes it more challenging for D2D communication. Among extensive studies on limiting energy consumption and latency, DD is one of the essential parts concentrating on access and communication, a comprehensive survey on DD challenges, for

example single cell/multi-cell and dense area DD, energy consumption during discovery, discovery delay, and discovery security, etc., has been presented to accomplish an effective paradigm of D2D networks. In order to undertake the user needs, an architecture has been projected, which promises the various implementation challenges of DD. PSO is used to achieve the expected result. The main objective is to provide the optimal in band of the mobility to static and dynamic d2d communication. This project is run only simulation. We use frontend as, the coding language is Java.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :13/04/2022

(21) Application No.202241022043 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : DATA INTEGRITY AND SECURED DATA ANALYSIS FOR CORPORATE MANAGEMENT

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(57) Abstract :
Annexure 3 The Multiple Relationship Management System is a complex system which some organisations consider to be useful in improving organisation performance. The major objectives of acquiring MRM System are broadly classified into two categories namely : Technical gains and business gains. Technical gains mostly deal with replacing legacy systems, improving data integrity and improving security. Business gains are classified as operational benefits and strategic benefits. Operational benefits include; improved business processes; data integrity cost reduction; ease of management of organisation; improved communication; accurate decision based on data, improved information availability and improved communication; accurate decision making based on data, improved information availability and improved production. The full potential of these systems can only be realised only if they are successfully implemented. However, the implementation process is cost effective and time consuming, and thus requires careful planning and organisation. If successfully implemented, the MRM system provides many benefits to those organisations that adopt them. Implementing a comprehensive system not only provides access to important data, this also enables a better process for collecting and analysing data. Implementing an MRMs suite across departments means your organisation has a single, unified reporting system for every process. By having a single source of truth, an MRMs system can readily,generate valuable reports and analytics at any time.

This includes Human Resource MAnagement, Customer Relationship Management, Vendor Relationship Management and Finance modules. This software allows you to analyse and compare functions across departments without the hassle of multiple spreadsheets and emails. This system will provide the closed data integrity and secured data analysis for business and IT operations.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION   (21) Application No.202241022961 A

(19) INDIA

(22) Date of filing of Application :19/04/2022   (43) Publication Date : 06/05/2022

(54) Title of the invention : DEEP LEARNING CHANGE DETECTION IN REMOTE SENSING IMAGES USING A CONVOLUTIONAL NEURAL NETWORK

(51) International classification	:G06N0003040000, G06K0009620000, G06K0009000000, G06N0003080000, G06K0009460000
(86) International Application No 　　Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number 　　Filing Date	:NA :NA
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(57) Abstract :
ANNEXURE3 Deep learning has recently attracted the attentions of many in the field of change detection, and it is expected to continue to do so. Compared to typical hand-crafted featuresbased approaches, it tries to automatically learn high-level features from multiple remote sensing data sets. Deep learning algorithms for change detection can be classified in a variety of ways based on the perspectives that are taken into consideration. Deep learning algorithms for change detection are grouped into three groups in this study based on the learning technique utilised and whether or not training data is available that can be labelled or unlabelled. In the first category, there are fully supervised algorithms, which are methods that learn from a labelled training dataset in order to solve the

problem. Fully unsupervised algorithms, which are those that learn from unlabeled datasets, are included in the second category. Both supervised and unsupervised methods are used to choose the features that are consistent with the target concept from among those that are accessible. So in supervised learning, the target concept is explicitly associated with a specific class affiliation, but in unsupervised learning, the target concept is often targeted through intrinsic structures in the data (or other means). Approaches based on transfer learning are included in the third category of methods. Transfer learning is a machine learning technique that aims to use the knowledge gained from one task and apply it to another, but connected, task with the goal of either reducing the amount of data required for fine-tuning or improving performance on the first job. Deep learning-based change detection in the field of remoie sensing has recently gotten a lot of attention, and it's shown some impressive results so far. Deep learning-based approaches, as opposed to traditional feature-based methods, may automatically learn complicated aspects of remote sensing images on the basis of a large number . of hierarchical layers, whereas classic feature-based methods must be handcrafted. Using a metaanalysis, the authors of this paper examined papers that dealt with DL in remote sensing pictures in a systematic and organisedjnanner. An in-depth review was also carried out to describe and discuss the use of DL algorithms, notably in the field of change detection, which distinguishes our study from earlier studies on DL and remote sensing. As a result, several deep models that are frequently employed for change detection are detailed in greater detail. The authors also provide a broad overview of the existing methods, with a particular emphasis on deep learning-based change detection algorithms for remote sensing photos. Deep learning-based approaches were separated into three classes, which were as follows: completely supervised learning-based . methods; totally unsupervised learning-based methods, and transfer learning-based methods. In addition, we have proposed two possible new study avenues for the future. The results of this work strongly support the need for more research that places a greater emphasis on deep reinforcement learning and weakly supervised change detection approaches.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION   (21) Application No.202241022963 A

(19) INDIA

(22) Date of filing of Application :19/04/2022   (43) Publication Date : 06/05/2022

(54) Title of the invention : EMOTIONAL ANALYSIS OF TWEETS

(51) International classification : H04N0021810000, H04N0021442000, H04N0021478800, G06F0016901000, G06F0016270000	(71)**Name of Applicant :**
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(86) International Application No :NA Filing Date :NA	
(87) International Publication No : NA	
(61) Patent of Addition to Application Number :NA Filing Date :NA	
(62) Divisional to Application Number :NA Filing Date :NA	

(57) Abstract :
ANNEXURE-3 This approach involves identifying the human emotions in tweets or any social media text data using deep learning. Social Media Platforms allows an online user to post their feelings, mental state and perspective on any topics. In Natural Language Processing, Emotional Analysis of a text is predicting the human emotions in a text. In this paper, it detects and analyzes sentiment and emotion expressed by people from text in their twitter posts using LSTM Recurrent Neural Network and fast text word embeddings. In this paper, the approach of a model, which can predict the emotions of the tweets. The Model requires a huge dictionary of lexicons which points to different emotions. The training dataset used consists of around forty thousand samples with emotions such as love, hate, anger, happiness, boredom, empty, sadness and surprise. In this paper, it makes use of the deep learning technique LSTM (Long Short-term Memory) Recurrent Neural Network to train the model. In this paper it displays the prediction

result of each tweet in a Web Ul developed using Django Python Framework, which provides a platform between the frontend and the backend model. It provides a platform to search for a topic and displays the resultant tweets with the emotion predictions.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION   (21) Application No.202241022985 A

(19) INDIA

(22) Date of filing of Application :19/04/2022   (43) Publication Date : 06/05/2022

(54) Title of the invention : FOOD NUTRITION DETECTION SYSTEM USING DEEP LEARNING AND FUZZY LOGIC

(51) International classification	:G06N0003080000, G06N0003040000, H04N0021466000, G06K0009620000, A21D0002360000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Annexure-3 Methodology for automatic food nutrition detection system which is capable of identifying the content of nutrients present in the food. To date, the system is able to classify the food into one of the hundreds of categories mentioned in the dataset. This classification has been performed on the well-known benchmark food dataset namely 'ETHZ Food 101'. Keras's pre-trained inception module has been used for performing the classification. Future works include the detection of the nutrition value of the food using nutrition API. The results of the food detection model will be passed to the nutrition API in order to extract the nutritional value

of the food. In order to give users the convenience of proper monitoring of nutritional intake and allows them to control their intake, concepts of fuzzy logic will be applied. Fuzzy logic checks the nutrient value of the food and then compares this value with the recommended dietary allowance and warn the user in case the nutritional intake of particular content for eg. a calorie is exceeding the recommended dietary allowance. This system will also develop an android application for displaying the nutrition value of the food to the user on their mobile application. This system will be designed by considering the minimal user efforts and providing them a better experience of self-monitoring of their food intake behavior.

No. of Pages : 5 No. of Claims : 3

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :19/04/2022

(21) Application No.202241023039 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : CROP HARVEST FORECASTING IN INDIAN AGRICULTURE USING MACHINE LEARNING APPROACHES

(51) International classification	:G06N0020000000, G06N0003080000, G06Q0050020000, G06N0003040000, A01G0009140000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
ANNEXURE 3 A promising study area has been predicting crop production based on environmental, soil, water, and crop characteristics. To extract relevant crop traits for prediction, deep-learning-based algorithms are widely used. Despite the fact that these strategies could address the yield prediction problem, they have the following flaws: Inability to develop a direct non-linear or linear mapping between raw data and crop yield values; and the quality of the derived features has a significant impact on the effectiveness of those models. For the shortcomings, deep reinforcement learning gives guidance and motivation. Deep reinforcement

learning combines the intelligence of reinforcement learning with deep learning to provide a complete crop yield prediction framework that can map raw data to crop prediction values. To anticipate agricultural yield, the proposed work builds a Deep Recurrent Q-Network model, which is a Recurrent Neural Network deep learning algorithm over the Q-Learning reinforcement learning algorithm. The data parameters feed the Recurrent Neural Network's successively layered layers. Based on the input parameters, the Q-learning network creates a crop yield prediction environment. A linear layer converts the output values of the Recurrent Neural Network to Q-values. The reinforcement learning agent uses a mixture of parametric features along with a threshold to forecast crop yield. Finally, by lowering error and increasing forecast accuracy, the agent obtains an overall score for the activities taken. The suggested model accurately predicts crop yield with a 93.7 percent accuracy, exceeding existing models by keeping the original data distribution.

No. of Pages : 5 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024158 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : REAL TIME SIGN LANGUAGE DETECTION USING DEEP LEARNING

(51) International classification	:G06K0009620000, G06K0009000000, G09B0021000000, G06N0003080000, G06N0003040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
Sign Language is the method of communication of hearing-impaired and mute people all over the world. They use various hand gestures and movements. They use sign language to express their thoughts and emotions and reinforce information delivered in daily conversations. Though they make up a significant percentage of any population, the majority of people can't interact with them due to limited or no knowledge of sign languages. This project represents a framework for a human computer interface capable of recognizing the gestures from sign language and providing an output representing the meaning of the gesture.The proposed system will use the concepts of deep learning such as Tensorflow and OpenCV to identify and learn the gestures which will help to establish a two-way communication without the need of a translator in-between.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024159 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : ENHANCED ALGORITHM FOR DETECTING BRAIN TUMOR USING MR IMAGES

(51) International classification	:C12Q0001688600, A61B0006000000, A61B0005000000, G11B0027280000, A61M0005168000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :

A brain tumor is a mass that develops inside the brain and is directly affected by the tissues underlying the brain or skull. The mass is broken down into two malignant and benign components. Such tumors grow irregularly in the brain and exert pressure. These triggers can cause many brain disorders. The number of people living in America with brain tumors is estimated at nearly 0.7 million in 2019. 0.86 Million such cases were diagnosed. 60,800 of these patients. Automated defect detection in medical imaging has become the emergent field in several medical diagnostic applications. Automated detection of tumors in MRI is very crucial as it provides information about abnormal tissues which is necessary for planning treatment. The conventional method for defect detection in magnetic resonance brain images is human inspection. This method is impractical due to the large amount of data. Hence, trusted and automatic classification schemes are essential to prevent the death rate of humans. In this project, we propose machine learning algorithms to overcome the drawbacks of traditional classifiers where tumors are detected in brain MRI using machine learning algorithms. Machine learning and image classifiers can be used to efficiently detect cancer cells in the brain through MR Images.

No. of Pages : 5 No. of Claims : 5

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :25/04/2022

(21) Application No.202241024164 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : SMART RICE PADDY FARMING

(51) International classification	:A01M0007000000, A01G0022220000, G06Q0050020000, A61K0036899000, A01G0007040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
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(57) Abstract :

The approach to this idea involves the updated solution for all the constraints in smart farming that are being practiced. Various technologies have been included like machine learning, artificial intelligence, deep learning and statistical analysis. Due to changing climatic conditions and unpredictable weather farming has taken a major hit and is affected in a major basis. This declines the production and affects the habitual cycle financially and physically. This smart farming helps in analysing the historical production of each and every products being cultivated and provides a detailed analysis about the trends and quantity in which it was obtained. The amount of water and manure required and the ratio in which it produces the crops are all predicted on precise details. With the help of machine learning the details are upgraded by previous learning. And the amount of the required recipients are given which yields the maximum amount. The seasonal yield varies and it provides the perfect time for the corresponding crops.

No. of Pages : 5 No. of Claims : 6

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :13/04/2022

(21) Application No.202241022041 A

(43) Publication Date : 06/05/2022

(54) Title of the invention : DEVICE DISCOVER IN D2D COMMUNICATION WITH PSO IN STATIC GRAPH OUTPUT

(51) International classification	:H04W0076140000, H04W0008000000, H04W0004700000, H04W0052020000, A61K0038390000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
ANNEXURE3 Device to Device (D2D) communication was first considered in out-band to manage energy issues in the wireless sensor networks. The primary target was to secure information about system topology for successive communication. Now the D2D communication has been legitimated in in- band by the networks. To initiate D2D communication, Device Discovery (DD) is a primary task and every D2D application benefits from DD as an end-to-end link maintenance and data relay when the direct path is obstructed. For in-band D2D, DD in a single cell and multi-cell, and dense area is not legitimated properly, causing latency, inaccuracy, and energy consumption. The DD is facing new difficulties because of the mobility of the devices over static systems, and the mobility makes it more challenging for D2D communication. Among extensive studies on limiting energy consumption and latency, DD is one of the essential parts concentrating on access and communication, a comprehensive survey on DD challenges, for

भारत सरकार
GOVERNMENT OF INDIA

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सं. \ No. 201941035581

दिनांक \ Dated the 29/07/2021

सेवा मे, \ To :

Address of Service:- KHURANA & KHURANA, Advocates and IP Attorneys E-13, UPSIDC, Site-IV, Behind Grand Venice, Kasna Road, Greater Noida 201310, UP, National Capital Region, India.
Email Id:- info@khuranaandkhurana.com

विषय :-   पेटेंट आवेदन संख्या 201941035581 के संबंध मे अधिनियम की धारा 43 के तहत पेटेंट अनुदान तथा पेटेंट रजिस्टर मे प्रविष्टि की सूचना
Sub :-   Intimation of the grant and recordal of patent under section 43 of the Act in respect of patent application no. 201941035581

महोदय/महोदया,
Sir/Madam,

        आपको सूचित किया जाता है कि पेटेंट अधिनिय, 1970 की धारा 12 व 13 तथा उस आधार पर बने नियम के तहत उपर्युक्त पेटेंट आवेदन के परीक्षण [व 16/07/2021 को हुई सुनवाई] के उपरांत एतद्द्वारा पेटेंट अनुदान किया जाता है। तथा पेटेंट अनुदान की प्रविष्टि 29/07/2021 को पेटेंट रजिस्टर मे कर दी गयी है।

        This is to Inform you that following the examination of above mentioned patent application under section 12 and 13 of The Patents Act, 1970 and Rules made thereunder [and hearing held on 16/07/2021   ] a patent is hereby granted and recorded in the Register of Patents on the 29/07/2021. The Patent Certificate is enclosed herewith.

पेटेंट संख्या \ Patent No	:	373127
आवेदक का नाम \ Name Of Applicant	:	Allinnov Research and Development Private Limited
पेटेंट दिनांक \ Date of Patent	:	04/09/2019
पूर्विक्ता तिथि \ Priority Date	:	04/09/2019
परीक्षण हेतु अनुरोध दाखिल करने की तिथि \ Filling date of Request for examination	:	15/02/2021
शीर्षक \ Title	:	PORTABLE AIR CONDITIONER FOR VEHICLES
दावों की संख्या \ Number of claims	:	5

उपर्युक्त पेटेंट के अनुदान का प्रकाशन अधिनियम की धारा 43 के तहत पेटेंट कार्यालय के आधिकारिक जर्नल मे किया जाएगा।
The grant of above mentioned patent will be published in the Official Journal of the patent Office under section 43 of the Act.

पेटेंट अधिनियम 1970 यथा संशोधित पेटेंट (संशोधन) नियम, 2005/ पेटेंट नियम, 2003 यथा संशोधित पेटेंट (संशोधन) नियम, 2016 की धारा 142 की उप-धारा (4) के प्रावधानों के तहत उपरोक्त प्रविष्टि की तिथि से 3 माह के भीतर इस कार्यालय मे नवीकरण शुल्क जमा किया जाना चाहिए।
The payment of renewal fee is required to be made at this office within three(3) months from the aforesaid date of recording according to the proviso in sub-section(4) of Section 142 of The Patents Act,1970, as amended by The Patents (Amendment) Act, 2005 / The Patents Rules, 2003 as amended by The Patents (Amendment) Rules, 2016.

Shashidhara C.N.

(नियंत्रक पेटेंट)
Controller of Patents

टिप्पणी / Note :
1. संशोधित नवीकरण शुल्क हेतु कृपया महानियंत्रक पेटेंट, अभिकल्प एवं व्यापार चिह्न की आधिकारिक वैबसाइट www.ipindia.gov.in पर उपलब्ध पेटेंट (संशोधन) नियम 2016 की प्रथम अनुसूची (शुल्क) देखें।
    For revised renewal fees kindly refer to the First Schedule (fees) of The Patents (Amendment) Rules 2016 available on the official website of Controller General of Patents, Designs and Trade Marks www.ipindia.gov.in
2. कार्यालय द्वारा पेटेंट प्रमाणपत्र की कोई भी कागजी प्रति अलग से जारी नहीं की जाएगी।
    No hard copy of Patent Certificate shall be issued separately by the office.

The Controller of Patents and Designs,   January 06, 2021

The Patent Office,

Intellectual Property Office Building,

32 Plot No. 32, Sector 14, Dwarka,   <u>By online filing system</u>

New Delhi - 110078

<u>**Sub: Response to First Examination Report**</u>

<u>**Deadline: Jan 07, 2021**</u>

Kind Attention: Praveen Kumar

Controller of Patents

Dear Sirs,

Applicant	**:**	1. M.Ramya Devi, 2. S. Lokesh
Application Number	**:**	1438/CHE/2015
Title of the Invention	**:**	Vehicle tracking and control systems

Reference is made to the First Examination Report (FER) dated July 07, 2020, and the following reply is presented.

<u>**AMENDMENTS TO THE CLAIMS:**</u>

Original claims 2 and 3 have been merged with claim 1 to clearly illustrate the features of the present invention. No new matter has been added. Original claims 2 and 3 have been cancelled. Claims 1-8 are now presented for examination.

<u>**(1) INVENTIVE STEP:**</u>

With regards to Examiner's objection (1), that the claim(s) (1-10) does not constitute an invention as defined in section 2(1)(ja) of the Patent Act 1970 in view of D1: EP1877990A1,

and D2: KR100872329B1, the corresponding explanation and arguments have been included in this response.

D1 and D2 does not disclose the following features of the amended claim 1:

1. A vehicle tracking and control system for controlling one or more vehicles (104), comprising: <u>a plurality of virtual machines (VMs) (102a, 102b, 102c, 102d), each disposed at a predefined distance from each other</u> and including: a database (203a, 203b, 203c) for storing one or more particulars of the one or more vehicles (104); a location tracking unit (204a, 204b, 204c) for tracking location of the one or more vehicles (104); and a VM Subscriber Identity Module (SIM) circuit (205a, 205b, 205c) comprising a VM SIM associated with a unique VM identification number, <u>the VM SIM circuit (205a, 205b, 205c) being configured to exchange one or more messages with a set of vehicles (104) and VMs (102a, 102b, 102c, 102d) within a coverage area of corresponding VM, through a cellular network, and one or more vehicle tracking devices (300a) embedded inside the one or more vehicles (104).</u>

2. Each vehicle tracking device includes a vehicle SIM circuit (306a) comprising a vehicle SIM associated with a unique vehicle identification number, a memory (304a) configured to store one or more instructions, and a processing unit (302a), wherein the one or more instructions when executed in the processing unit (302a), cause the processing unit (302a) to estimate a current location of corresponding vehicle, and transmit the current location from the vehicle SIM circuit (306a) to a corresponding VM through the cellular network, <u>wherein each vehicle tracking device (300a) further comprises an emergency button (308a), wherein upon pressing of the emergency button (308a) in an event of an accident, corresponding processing unit (302a) estimates the current location of corresponding vehicle, and transmits an emergency message to corresponding VM (102a) through the cellular network, the emergency message comprising the current location of corresponding vehicle.</u>

3. <u>The VM (102a) is configured to search one or more ambulances nearby to the current location of corresponding vehicle (104a), upon receiving the emergency message, instruct the one or more ambulances to reach the current location by transmitting a</u>

message that comprises the current location of corresponding vehicle (104a), search one or more vehicles (104a) nearby to the current location of corresponding vehicle (104a), upon receiving the emergency message, instruct the one or more nearby vehicles (104a) to take a diversion to provide a clear path to the one or more nearby ambulances, when the one or more nearby vehicles (104a) are within a coverage area of corresponding VM (102a), and instruct one or more corresponding VMs of one or more nearby vehicles, to instruct the one or more nearby vehicles to take a diversion to provide a clear path to the one or more nearby ambulances, when the one or more nearby vehicles are not within a coverage area of corresponding VM (102a).

Differences between D1 and the present invention:

S. No.	Present invention	D1
1	Objective of the present invention is to reduce road accidents, search for a nearby emergency vehicle in the event of an accident, and manage the navigation of emergency vehicles, and nearby vehicles to provide a clear path to an emergency vehicle to the accident spot.	Objective of D1 is to monitor an individual. D1 implements individual tracking capability without the necessity of obtrusive hardware or dedicated phone lines. It provides active or real time location information concerning monitored individuals and to provide active notification to monitoring personnel.
2	Claim 1 discloses modules that enable the communication between device level and service level. First, the Virtual Center Management Server (VCMS) monitors the number of Virtual machines (VMs). Then, the Virtual Machines provide all the required service for the Transport system. At last, the vehicle tracking device are embedded into all the vehicles. The Virtual Center Management Server manages the virtualization infrastructure and VM troubleshooting. It monitors the virtual machine and respond to monitoring alerts. It manages load balancers, intrusion detection systems and also troubleshoot the network connectivity. Virtual Machines may be disposed at a predefined distance from each other and includes a database for storing particulars of vehicles. VM	D1 discloses tracking the position of an individual using GPS signals and cell phone location technologies for both real time and later comparison with parameters and providing bidirectional communication capability with the tracking device associated with the individual. D1 does not disclose multiple VMs disposed at a predefined distance from each other. D1 further does not disclose a virtual management server that monitors the VMs. D1 further does not disclose the vehicle tracking devices that exchange one or more messages with a set of vehicles and VMs within a coverage area of corresponding VM through a cellular network.

	Subscriber Identity Module (SIM) circuit comprising a VM SIM associated with a unique VM identification number. VM SIM circuit being configured to exchange one or more messages with a set of vehicles and VMs within a coverage area of corresponding VM, through a cellular network	
3	Claim 1 further discloses that when an accident occurs between vehicles, the vehicle user or any other vehicle driver on the path can press the emergency button in their vehicle. The processing unit estimates the latitude and longitude values of a current geographical location of the vehicle using the GPS module and alerts the SIM circuit to send an emergency message which includes the latitude and longitude values to the SIM circuit of the VM using GSM network. So, the current location of the vehicle from a corresponding tracking device to a corresponding virtual machine is transmitted. Then the ambulances services have been searched nearby the current location of the vehicle. The virtual center management server instructs one or more ambulance services by transmitting a message to reach the destination spot. This will also instruct the other nearby vehicles to take a diversion to provide a clear path to the ambulances.	D1 provides real time location information concerning monitored individuals and provide active notification to monitoring personnel. D1 does not disclose an emergency button in the vehicle to send an emergency message that includes a location of the vehicle. D1 does not disclose a VM that search the ambulance services nearby the current location of the vehicle. D1 does not disclose a virtual center management server that instructs one or more ambulance services by transmitting a message to reach the destination spot. D1 does not disclose a virtual center management server that would instruct the other nearby vehicles to take a diversion to provide a clear path to the ambulances.
4	The present invention alerts when there is an accident, assists to find the nearest ambulance service, provides a shortest path and a free way to reach the accident site. It provides vehicles computing resources not only to vehicular drivers but also to other vehicles by alerting them to take appropriate path. Based on three levels (i.e., device level, communication level, and cloud level), the system can improve road safety when executing road safety applications.	D1 provides an individual tracking system that does not require specialized hard ware for monitoring personnel.

Differences between D2 and the present invention:

S. No.	Present invention	D2
1	Objective of the present invention is to reduce road accidents, search for a nearby emergency vehicle in the event of an accident, manage the navigation of emergency vehicles, and nearby vehicles to provide a clear path to an emergency vehicle to the accident spot.	D2 determines the accident vehicle information, the insurance company information to which the accident vehicle is subscribed, the towing company information corresponding to the emergency rescue vehicle approached in close proximity to the accident vehicle, the emergency rescue cost information, and the location tracking agency information for tracking the location of the accident vehicle. D2 does not disclose searching for a nearby emergency vehicle in the event of an accident, manage the navigation of emergency vehicles, and nearby vehicles to provide a clear path to an emergency vehicle to the accident spot.
2	Claim 1 discloses modules that enable the communication between device level and service level. First, the Virtual Center Management Server (VCMS) monitors the number of Virtual machines (VMs). Then, the Virtual Machines provide all the required service for the Transport system. At last, the vehicle tracking device are embedded into all the vehicles. The Virtual Center Management Server manages the virtualization infrastructure and VM troubleshooting. It monitors the virtual machine and respond to monitoring alerts. It manages load balancers, intrusion detection systems and also troubleshoot the network connectivity. Virtual Machines may be disposed at a predefined distance from each other and includes a database for storing particulars of vehicles. VM Subscriber Identity Module (SIM) circuit comprising a VM SIM associated with a unique VM identification number. VM SIM circuit being configured to exchange one or more messages with a set of vehicles and VMs within a coverage area	D2 discloses an information receiver configured to receive predetermined RCM data (or ECM data) transmitted from a location tracking terminal provided in a predetermined vehicle; A location calculator configured to calculate a location of the vehicle based on the RCM data (or ECM data); An accident occurrence confirming unit which reads the RCM data (or ECM data) and checks whether an accident has occurred in the vehicle; An emergency rescue information receiver configured to receive emergency rescue vehicle information, an insurance company server provided at a predetermined insurance company or an emergency rescue server provided at a police station (or a fire station); A position checking unit for checking whether the emergency rescue vehicle reaches a homing signal arrival range of the accident vehicle by checking the position information of the accident

	of corresponding VM, through a cellular network	vehicle and the position information of the emergency rescue vehicle having a predetermined position tracking terminal; And an information transmitter for transmitting a predetermined homing signal transmission command to the location tracking terminal provided in the accident vehicle to the base station when the emergency rescue vehicle reaches the homing signal arrival range. Accident vehicle location tracking server. However, D2 does not disclose multiple VMs disposed at a predefined distance from each other. D2 further does not disclose a virtual management server that monitors the VMs. D2 further does not disclose the vehicle tracking devices that exchange one or more messages with a set of vehicles and VMs within a coverage area of corresponding VM through a cellular network.	
3	Claim 1 further discloses that when an accident occurs between vehicles, the vehicle user or any other vehicle driver on the path can press the emergency button in their vehicle. The processing unit estimates the latitude and longitude values of a current geographical location of the vehicle using the GPS module and alerts the SIM circuit to send an emergency message which includes the latitude and longitude values to the SIM circuit of the VM using GSM network. So, the current location of the vehicle from a corresponding tracking device to a corresponding virtual machine is transmitted. Then the ambulances services have been searched nearby the current location of the vehicle. The virtual center management server instructs one or more ambulance services by transmitting a message to reach the destination spot. This will also instruct	In D2, when the accident vehicle is confirmed, the location of the super close-up accident vehicle further comprises an information providing unit for providing the accident vehicle information to the insurance company server provided to a predetermined insurance company, or the emergency rescue server provided to the police station (or fire department) server. However, D2 does not disclose an emergency button in the vehicle to send an emergency message that includes a location of the vehicle. D2 does not disclose a VM that search the ambulance services nearby the current location of the vehicle. D2 does not disclose a virtual center management server that instructs one or more ambulance services by transmitting a message to reach the destination spot.	

	the other nearby vehicles to take a diversion to provide a clear path to the ambulances.	D2 does not disclose a virtual center management server that would instruct the other nearby vehicles to take a diversion to provide a clear path to the ambulances.
4.	The present invention alerts when there is an accident, assists to find the nearest ambulance service, provides a shortest path and a free way to reach the accident site. It provides vehicles computing resources not only to vehicular drivers but also to other vehicles by alerting them to take appropriate path. Based on three levels (i.e., device level, communication level, and cloud level), the system can improve road safety when executing road safety applications.	D2 does not disclose generating alerts when there is an accident, assists to find the nearest ambulance service, provides a shortest path and a free way to reach the accident site. D2 does not alert other vehicles by alerting them to take appropriate path. D2 does not focus on improving road safety when executing road safety applications.

In view of the above-mentioned differences, we hereby submit that the claims 1-8 include an inventive step in view of D1 and D2.

(2) NON-PATENTABILITY:

Vehicle tracking and navigation systems provide an abundance of useful information related to the vehicle state. This information can be utilized by the driver for planning the best possible route to reach a particular destination and may include distance and direction information as well as detailed guidance instructions. Most of existing vehicle tracking and navigation systems use the Global Positioning System (GPS). However, none of the existing vehicle tracking and location systems control and manage movement of vehicles in the event of road accidents. Further, they do not expedite the availability of ambulances at accident sites.

The technical features of the present invention are listed as below:
- To propose a system that alerts when there is an accident, assists to find the nearest ambulance service, provides a shortest path and a free way to reach the accident site. Advances an availability of ambulance services at an accident site. In addition, Re-routing of vehicles in the event of an accident

- To monitor speed of the vehicle to reduce accidents on the road and it also provides authentication service
- To give an appropriate vacant parking space information alongside with booking and recommendation choices to facilitate vehicles in a compelling, ongoing and exact way
- To leverage cloud computing functionalities to provide access to drivers the computing assets using their mobiles. Based on three layers such as device level, communication level, and service level, the system can improve road safety. It can also contribute to different computing functions such as processing, networking, and storage. It leads to increase the quality of whole network services
- To provide a better performance in delivering emergency message in a minimal time that leads to the minimal damage to the accident environment.

The Applicant respectfully submits that the claims 1-10 demonstrate a "technical contribution" in solving this problem, and requests that the objection may kindly be waived. The present invention provides a method and system for managing location and movement of various vehicles in the event of an accident, and to manage diversion of vehicles to provide a way for ambulances. The system uses various kind of virtual machines installed at different locations of a road to continuously monitor and enable communication with tracking devices installed in the vehicles.

The present invention is said to involve an inventive step, as the technical advancement and/or technical effect of said invention is considered to have been automatically met. It is difficult to imagine a situation wherein in act of solving a technical problem cannot be considered as an advancement of the state of the art. In case the computer program is installed on general purpose hardware and exhibit technical effect, and technical advancement must also be considered to have satisfied the patentability requirement under Section 3(k).

In a recent order passed by the Delhi High Court ("**the Court**") in the case of Ferid Allani v. Union of India and Ors., proved to be a radical decision on the jurisprudence related to patentability of computer software programs or otherwise known as computer related inventions (CRI's) in India. The Court vide its order dated 12.12.2019, confirmed that not all CRI's are hit by the bar on patenting under the provisions of Section 3(k) of the Indian Patents

Act, 1970 (the "**Act**"), provided such CRI's demonstrate a technical effect or technical contribution.

As per the case, the Petitioner filed a patent application, seeking grant of patent for a "method and device for accessing information sources and services on the web". The Patent Office issued the first examination report stating the objections as to lack of novelty and patentability under Section 2(1)(j) and Section 3 (k) of the Act. Subsequently, the next examination report stated that despite the amendments made in the claims by the Petitioner, the application was still hit by Section 3(k). An appeal before the IPAB was also dismissed on the grounds that the patent application did not disclose any 'technical effect' or 'technical advancement' and hence does not qualify for a grant of patent under the Act. Based on the above rejections, the Petitioner moved the High Court and argued that his patent application was an 'invention' within the meaning of the Act and that it advanced an efficient database search strategy, more economical use of memory etc. It was contended that this constituted the "technical effect" and hence the rejection of the patent by the Patent Office and the IPAB was in contravention to the law and the relevant guidelines.

The court further observed that:

"*In today's digital world, when most inventions are based on computer programs, it would be retrograde to argue that all such inventions would not be patentable. Innovation in the field of artificial intelligence, blockchain technologies and other digital products would be based on computer programs, however the same would not become nonpatentable inventions – simply for that reason. Thus, the effect that such programs produce including in digital and electronic products is crucial in determining the test of patentability.*"

Accordingly, it stated that the patent applications in the field of computer programs would have to be examined in a manner to see if they result in any '*technical contribution*'. If the invention demonstrates a "technical effect" or a "technical contribution" it is patentable even though it is based on a computer program. The court pointed out that the effect which the computer programs produce is crucial in determining patentability. Further, the court opined that the term "technical effect" shall be interpreted according to judicial precedents, pair material provisions, and practices of patent offices of foreign jurisdictions. Therefore, we request the Examiner to kindly waive off said objection.

2. With regards to Examiner's objection (2)(2), we have provided reference numerals in the claims 9-10 to disclose the structural component that carried out said steps. Therefore, in presence of structural components, the subject matter of claims 9-10 is not a mere scheme, and hence does not fall within scope of clause (m) of section (3) of the Patents Act, 1970 (as amended). Kindly waive off said objection.

(3) SUFFICIENCY OF DISCLOSURE:

With regards to Examiner's objection (3)(I), we hereby submit that we have provided the reference numerals in the the method claims 9-10 to clearly define the physical constructional features that enable the method steps to make the method function/work/operate. Kindly take it on record.

With regards to Examiner's objection 3(II), we hereby submit the revised abstract prepared as per the instructions given in rule 13(7)(d) of the Patents Rules, 2003.

With regards to Examiner's objection 3(III), we hereby submit the revised drawings. Kindly take them on record.

PART III – FORMAL REQUIREMENTS:

Form 13	We hereby confirm that there is no change in address of service of the agent. Therefore, filing of Form 13 is not required.
Format of specification	1. We hereby submit the duly filled up Form 1. Kindly take it on record. 2. We hereby submit the claims that are signed by the attorney at the end. 3. We hereby submit that the revised font size is fine, and is legible.

	4. We hereby submit that we have removed the extraneous matter and blank spaces from complete specification. 5. We hereby submit that pages of the complete specification are already numbered from page 1.
Other deficiencies	1. We hereby submit a marked-up copy of the amendments. Kindly take them on record. 2. We hereby confirm that all the submitted documents and forms like PA/GPA etc are originally signed by the authorized signatory under the provisions of the Patents Act, 1970. 3. We hereby confirm that no foreign application has been filed corresponding to the present application

Accordingly, it is prayed that the objection be waived.

The applicant hopefully believes that the above submission and amendments carried out in claims, as discussed above, will find this application in a good condition for allowance.

Grant of a patent on this application is respectfully requested. However, if the Controller believes that there is any further objection/requirement, the applicants request that at least ten days opportunity in advance of hearing be given.

The Learned Controller is requested to take the above-mentioned documents on record under intimation to us. The Learned Controller is further requested not to pass any adverse orders without affording an opportunity of being heard to us.

We request the Learned Controller to send us the Filing Receipt by post on the above mentioned address or by e-mail on neha.agrawal.72@gmail.com.

For the applicant

By their patent agent – **Neha Agrawal**
(Reg No: IN-PA/1292)

Enclosures:

1. Amended Claims – Clean & Marked-up Copy
2. Revised Form 2 with complete specs
3. Revised drawings
4. Revised Abstract
5. Revised Form 1