REVISTA

MAGAZINE MAY 2020

DEPARTMENT OF INFORMATION TECHNOLOGY

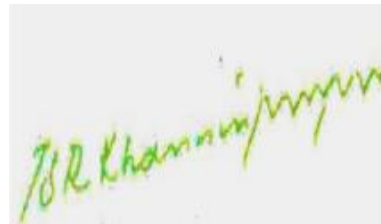## HINDUSTHAN
College of Engineering and Technology
Coimbatore

Shri.T.S.R.khannaiyann
Chairman
Hindusthan Educational and Charitable Trust
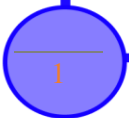**Coimbatore.**

MESSAGE

REVISTA'19 is an innovative piece, which showcases the hard work put in by the editorial board. I appreciate the efforts of the editorial team who have done an excellent job in compiling REVISTA'19 activities over the year and disseminate them through this magazine. I wish them all success for their future endeavor.

THIRU T.S.R.KHANNAIYAN
(CHAIRMAN)

Smt.Sarasuwathi Khannaiyann

Secretary

Hindusthan Educational and Charitable Trust

Coimbatore - 641032

MESSAGE

"Education is simply the soul of the society as it's passes from one generation to another"
                                                                    -G.K.Chesterson

      Engineers play the most vital and important role in nation building. They create new inventions using best engineered technologies to make human life more comfortable, secure and productive. We have excellent potential to grow in diversified areas and excel in Engineering and Management fields. We need enormous number of engineers and managers to write next story of success.

      At the outset I send my greetings to the Editorial Board of REVISTA' 19, for working on a Magazine best in all aspects. I believe this magazine will proc ide us the benchmark for continued improvement in overall development of the College.

MRS.SARASUWATHI KHANNAIYANN
(SECRETARY)

Mrs.Priya Sathish Prabhu
Joint Secretary
Hindusthan Educational and Charitable Trust
Coimbatore – 641032

MESSAGE

"Education is the most powerful weapon which you can use to change the world"
                                                                                    -Nelson Mandela.

REVISTA'19 is an excellent piece of publication that demonstrates the literary, art and imaginative skills of our students. It is always inspiring to read through the pages of the magazine and see such talented academics pushing the boundaries of discovery. Congratulations to the entire team!

MRS.PRIYA SATEESH PRABU
(JOINT SECRETARY)

Department of Information Technology

Dr.T.Kannadasan
Principal
Hindussthan college of Engineering and Technology
Coimbatore – 641032

MESSAGE

It gives me immense pleasure to pen a few words as prologue to our in-house magazine 'REVISTA 19' exclusively meant for churning out the latent writing talent which bears immense potentiality of sharpening your communication skill as part of your overall personality development. I congratulate all the contributors and the editorial board for bringing out such a beautiful magazine.

I am confident that 'REVISTA 19' would turn out to be a real trend-setter in surfacing and kindling in young ITians.

IT is Imminent, IT is Real

DR.T.KANNADASAN
(PRINCIPAL)

Department of Information Technology

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Dr.N.Rajkumar
Professor & Head
Department of Information Technology
Hindusthan College of Engineering and Technology
Coimbatore – 641032

MESSAGE

I am very much delighted and happy that our department is releasing the 'REVISTA 19'. It ignites fresh enthusiasm of the creative skills over the students of our department and fulfills their expectations. I would like to thank everyone for their active support to release this magazine. I extend my warm greeting to all the participants and organizers of the 'REVISTA 19' and your support will encourage us to release the issue every year.

Wishing you all the best…!

DR.N.RAJKUMAR
PROFESSOR & HEAD

Mrs.P.Revathi
Assistant Professor
Department of Information Technology
Hindusthan College of Engineering and Technology
Coimbatore – 641032

MESSAGE

It gives me immense pleasure that our department is releasing the REVISTA'19. It grabs out the creative skills over the students of our department. Guided by our pillars of support, our faculty members, we got the magazine done with all its formalities and informalities. I have to thank all our student editors here for their continuous support throughout this magazine's creation. It's been a journey, a journey that taught us many lessons and provided us with quite a bit of entertainment as well.

MRS.P.REVATHI
AP/IT

Department of Information Technology

VISION OF THE DEPARTMENT

- To develop IT Professionals of the best caliber with Entrepreneurship Zeal.

MISSION OF DEPARTMENT

- To establish a best Learning Environment that helps the Students to face the Challenges of IT field.
- To enable the Students to develop Skills for solving Technical Problems and also endorse Collaborative and Multidisciplinary activities.
- To induce Entrepreneurial mindset amongst Students and develop the necessary Skills to meet the Entrepreneurial needs of the Society.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- **PEO1:** Graduates of the program will be proficient in identifying, formulating and solving complex problems by applying their knowledge of mathematics, science and information technology principles.
- **PEO2:** Graduates of the program will be capable of analyzing, designing, implementing and managing software projects through continuous learning and use modern tools to meet real world constraints.
- **PEO3:** Graduates of the program exhibits professionalism with ethical attitude, excellent communication and term spirit to Satisfy society needs.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- **PSO1:** Able to design and develop software solutions by employing appropriate problem solving strategies, including Logically thinking, Create a user interface, Write code to connect a front end user interface with a backend database using a contemporary object-oriented language.
- **PSO2:** Ability to design and develop mobile applications and Web based applications with testing skills which consequently leads to employability and entrepreneurship skills.

Department of Information Technology

TECHNICAL PROGRAMMES

1. FDP on "Theory of Computation"

IEI Sponsored Three Days Faculty Development Programme On "Theory of Computation" was held on June 6 – 8, 2019. It was inaugurated by Dr.N.Rajkumar - Head of the Department of Information Technology. The sessions were handled by Mr. A.Bharanidharan, Asst. Prof (Sl.Grade) -Department of CSE, Sri Ramakrishna Engineering College, Coimbatore, Ms. M. Prathilothamai, Assistant Professor – Department of CSE , Amirta University, Coimbatore and Ms.G.Shobana, Assistant Professor - Department of CSE, Kumaraguru College of Technology, Coimbatore. More than 50 faculty members from various colleges participated and benefited from this FDP.

2. Guest Lecture in "Interview Tips and Motivational Speech"

Guest Lecture on "Interview Tips and Motivational Speech" was conducted on 13th July 2019. The session was inaugurated by Dr.N.Rajkumar- Head of the Department of Information Technology. The Event was handled by Mr.Prakash Subramaniam, Team Manager -Pactron India Pvt Ltd, Coimbatore. This Guest Lecture is organized to make our students motivated for the preparation of Placement and focussing on improving their mental strength by providing some useful tips for interview preparation. More than 100 students have attended and got an insight into resume preparation.

Department of Information Technology

3. Workshop on "Data Mining Tool"

One day workshop on **"Data Mining Tool"** was conducted on **17th August 2019**. It was inaugurated by Dr.N.Rajkumar- Head of the Department of Information Technology.The sessions were handled by Ms. E. Elakiya, Assistant Professor, E G. S. Pillay Engineering College, Nagapattinam and Mr. R. Kanagaraj, Assistant Professor, Sri Ramakrishna Engineering College, Coimbatore. The main objective of the program is to obtain knowledge on WEKA tool, RapidMiner and R Tool, is the process of analyzing data, transforming and modeling data with the goal of discovering useful information. Around 200 students were benefited from this program.

4. Seminar on "Recent Trends on BlockChain Technology for Healthcare: Facilitating the Transition to Patient-Driven Interoperability "

It was sponsored by CSIR was conducted on 7th& 8th February 2020. It was inaugurated by Dr.N.Rajkumar - Head of the Department of Information Technology. The sessions were handled by Mr.G.Lakshman Project Engineer, Pantech Solutions, Coimbatore, Mr.A.Bharanidharan Assistant Professor (Sl.Grade) SREC, Coimbatore and Dr.S.Harihara Gopalan Associate Professor SREC, Coimbatore.The seminar focused on how blockchain technology might facilitate the Transition to Patient-Driven Interoperability through the mechanisms - digital access rules, data aggregation, data liquidity, patient identity and data immutability. More than 100 students were enlightened with the knowledge of blockchain technology

Department of Information Technology

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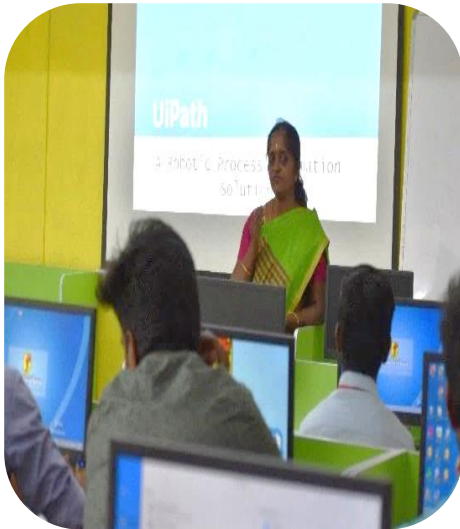
6. **National Level Seminar on "Machine Learning Applications to Clinical Decision Support in Neurosurgery: an Artificial Intelligence"**

It was conducted on 17th & 18th February 2020. It was inaugurated by Dr.N.Rajkumar - Head of the Department of Information Technology. The sessions were handled by Dr.R.Anuradha, Associate Professor - SREC, Coimbatore, Dr. Ganesh Neelakanta Iyer Associate Professor – CSE, School of Engineering, Mr. A.Bharanidharan Assistant Professor (Sl.Grade) SREC, Coimbator. The motive of this seminar is to explore machine Learning algorithms and their substantial improvements in Neurosurgery. The current state of neurosurgical ML applications and the performance of algorithms applied in this field were discussed. More than 80 students and 50 faculty members were benefited from this seminar.

Department of Information Technology

7. Seminar on "Robotic Process Automation"

It was conducted on **6th March 2020**. It was inaugurated by Dr.N.Rajkumar - Head of the Department of Information Technology. Dr. A.Jeyalakshmi, Associate Professor, Department of CSE&IT (PG),Sri Ramakrishna College of Arts and Science, Coimbatore handled the session on RPA. The main objective of this seminar is to know about one of the emerging technology - Robotics Process Automation (RPA) and its utilization of sophisticated computer software to automate manual tasks, saving time and money, increasing quality of performance, streamlining processes and freeing up human workers for more knowledge based and higher value work. Around 90 students gained knowledge on RPA.

8. "Fourth International Conference on Green, Intelligent Computing and Communication Systems-ICGICCS'20"

AICTE Sponsored Two days Fourth International Conference on "Green, Intelligent Computing & Communication Systems" was conducted on 5th& 6th March 2020. The conference witnessed a total of 150 research papers presented in various domains. The chief guest for the day was Dr. A.Sivathanu Pillai (PhD, D.Sc), DRDO Dr.DS Kothari Chair, Research & Innovation Centre, IIT Madras. In his address, he spoke about the Changing Dimensions of the War Theatre, Emerging Battlefield Scenario, Network Centric Warfare, Integration of Command Control, Communication and Computing for Effective Deployment, Space and Cyber War, Agni Programme, Akash Weapon Systems, Brahmos Supersonic cruise missile, ISRO's Manned Space Missions-Moon Mission – Chandrayaan-I. He also spoke about relevance of Artificial Intelligence, Machine Learning, Internet of Things, Machine Learning and Robotics in Defence and in General. Valedictory function along with the award ceremony was held on 06th March 2020 headed by Dr.T.Kannadasan, Principal, Hindusthan College of Engineering and Technology. He addressed the gathering and congratulated all the prize winners.

Department of Information Technology

9. Webinar on "Artificial Intelligence and Machine Learning-State of Art and Future"

It was conducted on 20th May 2020. It was inaugurated by Dr.N.Rajkumar - Head of the Department of Information Technology. The Session was handled by Mr.T.Vigneshwaran, CEO of Nandha Infotech, Coimbatore. The main objective of this webinar is to understand the technology to create intelligent systems that can simulate human intelligence. Also discussed the applications of machine learning like Online recommender system, Google search algorithms, Facebook auto friend tagging suggestions. More than 80 students gained knowledge about AI & ML and its future scope.

10. Webinar on "Artificial Intelligence Chatbot: Hands On Session"

It was conducted on 22nd May 2020. It was inaugurated by Dr.N.Rajkumar - Head of the Department of Information Technology. The Session was handled by Mr.Sobin Sunny, Trainer & Consultant Intent India. More than 100 students participated and had a Hands On Training in developing AI Chatbot.

11. Webinar on "Edge Computing"

It was conducted on 30th May 2020. Dr.N.Rajkumar - Head of the Department of Information Technology inaugurated the webinar. The Session was handled by Dr.K.Anitha Kumari, Associate Professor, Department of Information Technology, PSG College of Technology. More than 90 students have attended and know about the concept of Edge Computing and its Applications.

Department of Information Technology

PUZZLES

SOLVE ME!!!!
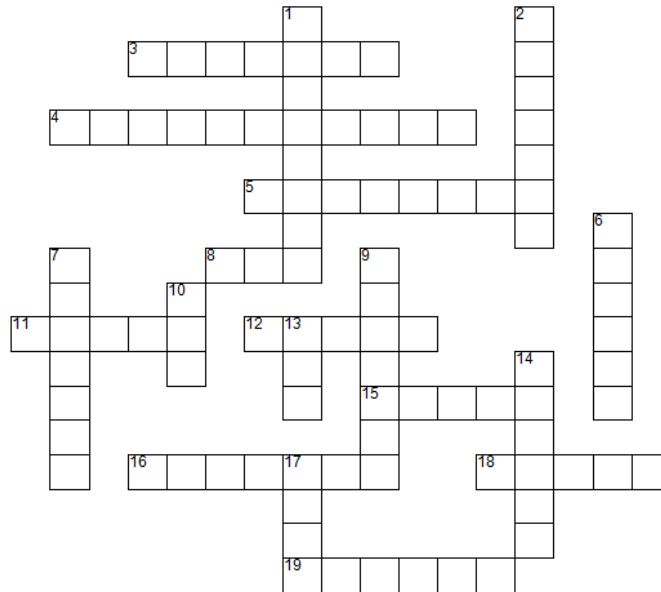
Across

3. A group of files or documents that are stored together by a title on your computer.

4. The main circuit board of a computer that holds together many of the important components of a computer.

5. where you can find the physical components of an electronic device.

8. An disk that contains usually a video recording or computer data.

11. A brief comment or explanation.

12. A small picture on a computer screen that represents a program or function that can be opened.

15. A set of facts or figures that can be displayed through a computer, especially in columns.

16. An electronic device that can intensify speeches, music, etc., and made audible throughout a room, hall, or the like.

18. A small device that is connected to a computer that you move with your hand to help you click on items on the computer screen.

19. where you can find the images on your electronic device.

Down

1. The set of keys that are used to type words on a computer or typewriter.

2. A machine that is used for printing documents, pictures, etc.

6. To look up something.

7. a computer program where you can look up and information on the internet.

9. A screen that displays an image that is being generated by a computer.

10. A special kind of cord that enables you to connect a computer to another device.

13. or the Central Processing Unit is the component of a computer system that processes and exchanges data with the peripherals.

14. Booting a computer system again usually due to a problem.

17. are on a keyboard to help you enter information on the computer.

-VARSHA C
SECOND YEAR
B TECH IT-B

ANSWER KEY:

					¹K						²P		
³F	O	L	D	E	R	S					R		
					Y						I		
⁴M	O	T	H	E	R	B	O	A	R	D	N		
						O					T		
				⁵H	A	R	D	W	A	R	E		
						R					R	⁶S	
⁷B			⁸D	V	D		⁹M					E	
R		¹⁰U					O					A	
¹¹N	O	T	E	S		¹²I	¹³C	O	N	S		R	
W		B				P	I			¹⁴R	C		
S						U	¹⁵T	A	B	L	E	H	
E							O			B			
R		¹⁶S	P	E	A	¹⁷K	E	R		¹⁸M	O	U	S	E
					E				O			
					Y				T			
				¹⁹S	C	R	E	E	N			
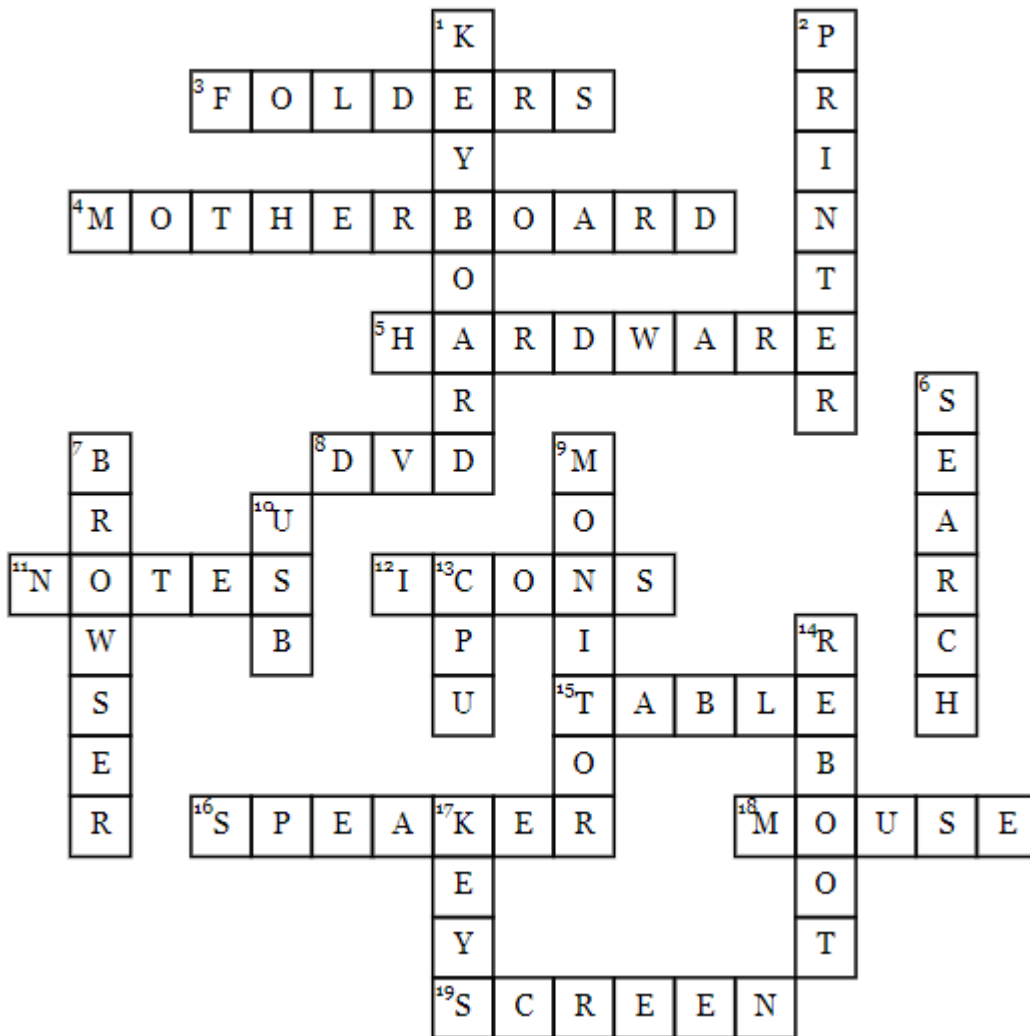
Riddles

1. George, Benny, and Ron were walking to school one day. Suddenly, one of them started to laugh. "I just noticed something weird, Ron," he said. "I'm wearing a blue jacket. And you guys are wearing a green jacket and a red jacket." "So what?" Ron asked."So, the colors begin with the same letters as our names. But none of us is wearing a color that begins with the same letter as his own name." With just that conversation to go on. can you figure out which boy is wearing which color?

   Answer:
   Ron can't be wearing red because it begins with r. The person who spoke to Ron is wearing blue, so Ron must be wearing green Benny can't be wearing blue or green, so he must be wearing red. That means George is wearing blue.

2. Carole and Julie are sisters. They were born on the same day (of the same year), just a few minutes apart. They have the same mother and the same father. But they are not twins. How can that be?

   Answer:
   A third sister was born with Carole and Julie. They are triplets.

3. In a rainy season, 10 fat girl having a small umbrella for all of them. The umbrella is too small to accommodate all 10 girls, yet not a single girl got wet.Why ?

   Answer:
   It's not raining, it's just a rainy season.

4. Why is 6 so much afraid of 7?

   Answer:
   Because seven was hungry and 'seven ate nine' (7, 8, 9).

5. What do you call a fish without an eye?

   Answer:
   Fsh.

6. The Little ant seems to be always confused. Do you know why?

   Answer:
   Because all his uncles are aunts.

Cylvia Maybell.N
Third Year IT-A

முயற்சி

ஏற ஏற இறங்கும் படிப்போல
வாழ்கை.....
ஏறுவது நீ தான் இறங்குவது. படிதான்...
வெற்றி உன் கண்களுக்கு முன்னே....
தோல்வி உன் கால்களுக்கு பின்னே... முயற்சி.
என்றும் உன்னுடன்..
வெற்றி யாகும்.

-

VARSHA C
SECOND YEAR IT-B

கொரோனா

ஏ! கொரோனா!
செத்தவர்கள் பத்தலையா?
செவியும் உனக்கு கேக்கலயா?
செய்வினை செஞ்சாங்களா உமக்கு?
செவி கொடுத்து கேளம்மா?

செத்தவரை நீ அறிவாயா? அல்லது
சேதாரம் தான் நீ அறிவாயா?
உலகை சுற்றும் வலிபனோ?
ஊரடங்கை தான் விரும்புபவனோ?

இயற்கையின் நண்பனோ?
இல்லறச்சிறை வைப்பலனோ?
இங்கிலிஷ் மருந்து உமக்கு வில்லனோ?
போதும் கொரோனா போதும்
கொஞ்சம் கருணை கொல்லம்மா,

பள்ளிக்கு செல்லனும்,
பள்ளிவாசல் திறக்கணும்,

பாடங்களை படிக்கணும்,
பகுத்தறிவும் வளரனும்,
போய்டம்மா போய்டு

உமக்கு புண்ணியமா போகட்டும்,..

VARSHA C
SECOND YEAR IT-B

CURRENT AFFAIRS
INTERNET OF THINGS

The Internet of Things keeps promising us a smarter future: fridges able to replenish themselves by automatically ordering food at a local grocery store (in-fridge delivery included!), bridges warning the oncoming cars about a frozen surface, or smart gear that monitors your health and delivers real-time data straight to your doctor's iPhone. While all of this may soon be within the reach of our hands, we still have to be aware of the massive machinery behind the scenes that makes dreams become reality. Without myriads of IoT technologies that surround us, these dreams would never come true.

What is the IoT technology hype all about?

Computer technology has been with us since the middle of the 20th century. Yet, the technology behind the Internet of Things had already been in the making long before the PCs became available to every Tom, Dick and Harry. The science of telemetry (Greek tele = *remote*, and metron = *measure*), the earliest forerunner to the IoT, has been used to measure and collect weather data or track wildlife over wire phone lines, radio waves and satellite communications already since the second half of the 19th century. Despite all its technical limitations, it laid ground to the concept of machine-to-machine communication (M2M), which, evolving gradually together with the advancements in connectivity solutions, gave birth to the idea of the Internet of Things as we know it today

Department of Information Technology

What is IoT technology made of? The IoT technology stack

It can prove a hard task if you'd like to find your way through the IoT technological maze given the diversity and sheer numerousness of the technology solutions that surround it. However, for matters of simplicity, we could break down the IoT technology stack into four basic technology layers involved in making the Internet of Things work. These are the following:

DEVICE HARDWARE

Devices are objects which actually constitute the 'things' within the Internet of Things. Acting as an interface between the real and the digital worlds, they may take different sizes, shapes and levels of technological complexity depending on the task they are required to perform within the specific IoT deployment. Whether pinhead sized microphones or heavy construction machines, practically every material object (even the animate ones, like animals or humans) can be turned into a connected device by the addition of necessary instrumentation (by adding sensors or actuators along with the appropriate software) to measure and collect the necessary data. Obviously, sensors, actuators or other telemetry gear can also constitute standalone smart devices by themselves. The only limitation to be encountered here is the actual IoT use case and its hardware requirements (size, ease of deployment and management, reliability, useful lifetime, cost-effectiveness).

DEVICE SOFTWARE

This is what actually makes the connected devices 'smart'. Software is responsible for implementing the communication with the Cloud, collecting data, integrating devices as well as performing real-time data analysis within the IoT network. What is more, it is device software that also caters for application level capabilities for users to visualize data and interact with the IoT system.

COMMUNICATIONS

Having the device hardware and software in place, there must be another layer which will provide the smart objects with ways and means of exchanging information with the rest of the IoT world. While it is true that communications mechanisms are strongly tied to device hardware and software, it is vital to consider them as a separate layer. Communication layer includes both physical connectivity solutions (cellular, satellite, LAN) and specific protocols used in varying IoT environments (ZigBee, Thread, Z-Wave, MQTT, LwM2M). Choosing the relevant communications solution is one of the vital parts in constructing every IoT technology stack. The technology chosen will determine not only the ways in which data is sent to/received from the Cloud, but

PLATFORM

also how the devices are managed and how they communicate with third party devices. For the purpose of the present article, we will go into the details of some of the present-day communications solutions later in the text.

As mentioned earlier, thanks to the 'smart' hardware and the software installed the device is able to 'sense' what is going on around it and communicate that to the user via a specific communications channel. An IoT platform is the place where all of these data is gathered, managed, processed, analyzed and presented in a user-friendly way. Thus, what makes such a solution especially valuable is not merely its data collection and IoT device management capabilities, but rather its ability to analyze and find useful insights from the portions of data provided by the devices via the communications layer. Again, there is quite a number of IoT platforms on the market, with choice depending on the requirements of the specific IoT project and such factors as architecture and IoT technology stack, reliability, customization properties, protocols used, hardware agnosticism, security and cost-effectiveness.

It is also worth mentioning that platforms can be either installed on-premise or cloud-based. Coiote IoT Device Management platform is a good example of such a platform as it can be deployed on-site as well as in the cloud. The same applies to another IoT platform by AV System — Coiote IoT Data Orchestration.

IoT Technology – Conclusion

As IoT technology has already made itself comfortable in our homes, public spaces, offices and factories, and given the breakneck pace of its development, it seems that the hackneyed

| device hardware | device software | communications | platform |

IoT phrase 'anything that can be connected will be connected' is ever closer to becoming our daily reality. Therefore, the real question shouldn't be about when this will happen, but rather how the connections should be made to achieve the highest possible efficiency while retaining key features like security and cost-effectiveness. With this approach in mind, a deployment envisaging a great number of low-power, low-bandwidth devices would require the use of LwM2M, a lightweight protocol designed especially for the management of such resource-constrained machines. Therefore, seen from such practical perspective, the question of success in case of given IoT applications seems to boil down to the choice of appropriate IoT technology from the vast array of existing solutions.

S.Avinesh
Second Year IT A

MACHINE LEARNING

What is machine learning?

Machine learning (ML) is a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. Machine learning algorithms use historical data as input to predict new output values.

Recommendation engines are a common use case for machine learning. Other popular uses include fraud detection, spam filtering, malware threat detection, business process automation (BPA) and predictive maintenance.

Why is machine learning important?

Machine learning is important because it gives enterprises a view of trends in customer behavior and business operational patterns, as well as supports the development of new products. Many of today's leading companies, such as Facebook, Google and Uber, make machine learning a central part of their operations. Machine learning has become a significant competitive differentiator for many companies.

What are the different types of machine learning?

Classical machine learning is often categorized by how an algorithm learns to become more accurate in its predictions. There are four basic proaches: supervised learning, unsupervised learning, semi-supervised learning and reinforcement learning. The type of algorithm data scientists choose to use depends on what type of data they want to predict.

- **Supervised learning:** In this type of machine learning, data scientists supply algorithms with labeled training data and define the variables they want the algorithm to assess for correlations. Both the input and the output of the algorithm is specified.

- **Unsupervised learning:** This type of machine learning involves algorithms that train on unlabeled data. The algorithm scans through data sets looking for any meaningful connection. The data that algorithms train on as well as the predictions or recommendations they output are predetermined.

- **Semi-supervised learning:** This approach to machine learning involves a mix of the two preceding types. Data scientists may feed an algorithm mostly labeled training data, but the model is free to explore the data on its own and develop its own understanding of the data set.

- **Reinforcement learning:** Data scientists typically use reinforcement learning to teach a machine to complete a multi-step process for which there are clearly defined rules. Data scientists program an algorithm to complete a task and give it positive or negative cues as it works out how to complete a task. But for the most part, the algorithm decides on its own what steps to take along the way.

-

How does supervised machine learning work?

Supervised machine learning requires the data scientist to train the algorithm with both labeled inputs and desired outputs. Supervised learning algorithms are good for the following tasks:

- **Binary classification:** Dividing data into two categories.

- **Multi-class classification:** Choosing between more than two types of answers.

- **Regression modeling:** Predicting continuous values.

- **Ensembling:** Combining the predictions of multiple machine learning models to produce an accurate prediction.

-

How does unsupervised machine learning work?

Unsupervised machine learning algorithms do not require data to be labeled. They sift through unlabeled data to look for patterns that can be used to group data points into subsets. Most types of deep learning, including neural networks, are unsupervised algorithms. Unsupervised learning algorithms are good for the following tasks:

- **Clustering:** Splitting the dataset into groups based on similarity.

- **Anomaly detection:** Identifying unusual data points in a data set.

- **Association mining:** Identifying sets of items in a data set that frequently occur together.

- **Dimensionality reduction:** Reducing the number of variables in a data set.

How does semi-supervised learning work?

Semi-supervised learning works by data scientists feeding a small amount of labeled training data to an algorithm. From this, the algorithm learns the dimensions of the data set, which it can then apply to new, unlabeled data. The performance of algorithms typically improves when they train on labeled data sets. But labeling data can be time consuming and expensive. Semi-supervised learning strikes a middle ground between the performance of supervised learning and the efficiency of unsupervised learning. Some areas where semi-supervised learning is used include:

- **Machine translation:** Teaching algorithms to translate language based on less than a full dictionary of words.

- **Fraud detection:** Identifying cases of fraud when you only have a few positive examples.

- **Labelling data:** Algorithms trained on small data sets can learn to apply data labels to larger sets automatically.

How does reinforcement learning work?

Reinforcement learning works by programming an algorithm with a distinct goal and a prescribed set of rules for accomplishing that goal. Data scientists also program the algorithm to seek positive rewards -- which it receives when it performs an action that is beneficial toward the ultimate goal -- and avoid punishments -- which it receives when it performs an action that gets it farther away from its ultimate goal. Reinforcement learning is often used in areas such as:

- **Robotics:** Robots can learn to perform tasks the physical world using this technique.

- **Video gameplay:** Reinforcement learning has been used to teach bots to play a number of video games.

Department of Information Technology

- **Resource management:** Given finite resources and a defined goal, reinforcement learning can help enterprises plan out how to allocate resources.

What is the future of machine learning?

While machine learning algorithms have been around for decades, they've attained new popularity as artificial intelligence has grown in prominence. Deep learning models, in particular, power today's most advanced AI applications.

Machine learning platforms are among enterprise technology's most competitive realms, with most major vendors, including Amazon, Google, Microsoft, IBM and others, racing to sign customers up for platform services that cover the spectrum of machine learning activities, including data collection, data preparation, data classification, model building, training and application deployment.

As machine learning continues to increase in importance to business operations and AI becomes more practical in enterprise settings, the machine learning platform wars will only intensify.

Continued research into deep learning and AI is increasingly focused on developing more general applications. Today's AI models require extensive training in order to produce an algorithm that is highly optimized to perform one task. But some researchers are exploring ways to make models more flexible and are seeking techniques that allow a machine to apply context learned from one task to future, different tasks.

Ms.Revathi.P
AP/IT

5G NETWORK

What is 5G?

5G is the fifth generation of cellular networks. Up to 100 times faster than 4G, 5G is creating never-before-seen opportunities for people and businesses.

Faster connectivity speeds, ultra-low latency and greater bandwidth is advancing societies, transforming industries and dramatically enhancing day-to-day experiences. Services that we used to see as futuristic, such as e-health, connected vehicles and traffic systems and advanced mobile cloud gaming have arrived.

With 5G technology, we can help create a smarter, safer and more sustainable future.

What makes 5G different?

5G runs on the same radio frequencies that are currently being used for your smartphone, on Wi-Fi networks and in satellite communications, but it enables technology to go a lot further.

Beyond being able to download a full-length HD movie to your phone in seconds (even from a crowded stadium), 5G is really about connecting things everywhere – reliably, without lag – so people can measure, understand and manage things in real time.

This has enormous potential – and together, we will take it to the next level.

Are you curious to know more about the technology and what it means to you? Follow us on an in-depth journey, explaining the differences between 5G and 4G.

5G evolution

Things have changed a lot since the first generation of mobile technology.

- The 1G era was defined by briefcase-sized phones and short conversations between a relatively small number of professional people.
- In the lead up to 2G, the demand for mobile services grew and never slowed down.
- Phones that could fit in your pocket, SMS and mobile internet access were hallmarks of the 3G world.
- Thanks to 4G, we have smartphones, app stores and YouTube.
- Now, 5G is completely reshaping both our professional and personal lives by enabling new use cases like connective vehicles, Augmented Reality and enhanced video and gaming.

Read on to learn what 5G is and what it can help achieve.

What is 5G capable of?
5G will do much more than significantly improve your network connection. It provides new opportunities, enabling us to deliver groundbreaking solutions that reach across society.

Imagine billions of connected devices gathering and sharing information in real time to reduce road accidents; or life-saving applications that can take flight thanks to lag-free guaranteed connections; or production lines so predictive they can prevent interruptions well before they occur.

There's no need to imagine. We are making it happen.

Advancing societies
5G opens cutting-edge ways of improving safety and sustainability.

- Smarter electricity grids for greatly reduced carbon emissions
- More connected vehicles sharing data to prevent road collisions
- Faster deployment of emergency services to accidents
- Connected sensors that can detect and warn of natural disasters early
- Drones becoming a key tool to accelerate and support emergency situation response
- Remote expertise with specialists smoothly consulting/diagnosing patients elsewhere

Transforming industries

- 5G is the foundation for flexible, efficient and responsible business.
- Production lines autonomously reacting to supply and demand
- Digital replicas that can warn about real machinery faults ahead of time
- Logistic networks autonomously routing goods based on real-world conditions
- Full traceability down to the individual item at warehouses and ports
- Remote access to powerful robots and vehicles for improved safety in risky environments
- Increased use of IoT in agriculture to efficiently grow crops

**Elevating experiences**
5G sets the stage for more immersive entertainment and more engaging education.

- Greater realism in VR, AR and extended reality (XR) with lighter devices
- Delivering sensory experiences, like touch, through devices
- More engaging methods of teaching through immersive content
- Immersive virtual meetings to boost remote team productivity

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AUTOMATION

Automation is the creation and application of technologies to produce and deliver goods and services with minimal human intervention. The implementation of automation technologies, techniques and processes improve the efficiency, reliability, and/or speed of many tasks that were previously performed by humans.
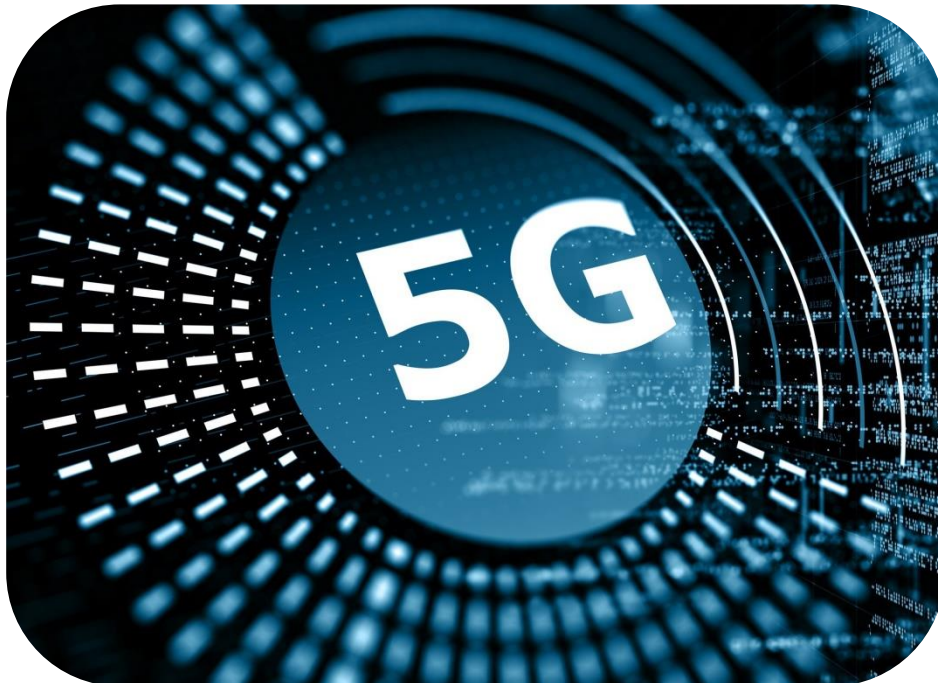
Automation is being used in a number of areas such as manufacturing, transport, utilities, defense, facilities, operations and lately, information technology.

Techopedia Explains Automation
In the enterprise, popular approaches to automation include business process automation (BPA) and robotic process automation (RPA). In general, the term BPA is used when talking about how to apply the concept of automation to business processes, while RPA is used when discussing how to automate a specific, repetitive task.

In IT marketing, the term hyperautomation is sometimes used to differentiate rules-based machine learning vendor "solutions" from more advanced products that use artificial intelligence and deep learning.

Why use automation?

Usually, automation is employed to minimize labor or to substitute humans in the most menial or repetitive tasks. Automation is present in virtually all verticals and niches, although it's more prevalent in manufacturing, utilities, transportation, and security.

For example, most manufacturing plants make use of some automated process in the form of robotic assembly lines. Human input is required only to define the processes and supervise them, while the assembling of the various components is left to the machines, which automatically convert raw materials into finished goods.

In the technology domain, the impact of automation is increasing rapidly, both in the software/hardware and machine layer. The implementation of new artificial intelligence (AI) and machine learning (ML) technologies is currently skyrocketing the evolution of this field.

Examples of Automation

In the information technology domain, a software script can test a software product and produce a report. There are also various software tools available in the market which can generate code for an application. The users only need to configure the tool and define the process.

From the simplest to the most complex application, automation is present in many forms in our everyday life. Common examples include household thermostats controlling boilers, the earliest automatic telephone switchboards, electronic navigation systems, or the most advanced algorithms behind self-driving cars.

Home automation - uses a combination of hardware and software technologies that enable control and management over appliances and devices within a home.

Network automation - the process of automating the configuration, management and operations of a computer network.

Office automation - involves using computers and software to digitize, store, process and communicate most routine tasks and processes in a standard office.Automated website testing - streamlines and standardizes website testing parameters for configuration changes that occur during the development phase.

Data center automation - enables the bulk of the data center operations to be performed by software programs. Includes automated system operations, also known as lights-out operations.Test automation - software code goes through quality assurance (QA) testing automatically by scripts and other automation tools.

MINI PROJECT

CHATBOT

HARIKRISHNA.J
KRITHIKVASAN.S
LAGUMESH.V

ABSTRACT

A Chat-bot is computer program which conduct a conversation via auditory or textual method. A Chatbot are software agent that interacts with the user for conversation. Chatbot typically serve text based user interface allow input from user and receive text as well as auditory from output. Chatbot is widely popular now-a-days and catching speed as an application of computer communication. Some programs respond intelligently like human. This type of program is called a Chatbot. This paper addresses the design and implementation of a Chatbot system.

SPY ROBOT

ABDULARIES.M
KEVIN.K.S
MADHUCHARAN.M

ABSTRACT

Android, an operating system developed by Google for smartphones, tablets and such type of touchscreen phones. Android app is a software running on Android platform. Typically an app is designed for specific purpose on Android platform such as smartphones and tablets. In this work a designing and implementing process of an Android based spy robot is described. An Android based application, RC WIFI controller is used to control in this spy robot. This robot can be controlled with the help an app of Android phones. Arduino based microcontroller is used for instruction processing and giving proper instructions. WIFI technology is used to interface between Arduino and Android. A hand for collecting and holding objects and a camera for live video steaming is used to observe any object & movement of robot. This robot can move to any place and perform smartly within wifi network range.

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RESQ

AISHWARYA.G
CYLVIA MAYBELL.N
JAI IRIN MYSTICA.J

ABSTRACT

In the modern era, women are more independent. Security for women has become a major issue, as the number of crimes over women and girls are increasing day-by-day. The problem of the women safety is increased rapidly in this environment. Using Technology as a boon, our project suggests a new perspective to enhance women safety in their own hands (via Smart mobile phones.) This is an android based application, that will be handy for women to reach out in an emergency situation. The main focus in this project is to protect and improve personal safety. By clicking on a button, alert message is sent to the user's already saved contacts. The application shares the user's location with the registered contacts in the form of message. Hence this application acts as a Guardian to the user.

ARTICLES

GOOGLE STADIA

OVERVIEW:

It is a cloud based Gaming service. It is started by Google. It was released on 2020 – December official for ios version. The simple concepts of Google stadia is a cloud based application in which we can play games at no matter what the display resolution Is and the storage size is we can play on right time when the game was released on Google stadia. Google made some subscription amount for less than a $10. It works perfectly in mobile devices, Laptops, Even in PC's etc. the basic requirements is a basic computer, Internet and the Gamepad which is used in Google stadia. It is advertised to be capable of streaming video games to players up total 4k Resolution at 60 Frames Per Second with support for High-Dynamic-Range (HDR) via the company's numerous data centers. It is accessible through chromecast ultra and Android TV devices, the GOOGLE CHROME web browser on personal computers as well as other chromium - based browsers, the Stadia mobile app on supported Android smartphones and chrome OS tablets.

THE HARDWARE:

Custom Intel x86 processor clocked at 2.7Ghz with AVX2 and 9.5 megabytes of L2 + L3 cache and another one AMD GPU based on the VEGA architecture with HBM2 memory . 56 compute units and 10.7 TeraFlops.It also had solid state drive(SSD). It has 16 GB of Ram to 484GB/s bandwith (supported with).

THE SOFTWARE*:*

Stadia is build in DEBIAN LINUX servers and VULKAN is their Graphics API.

FEATURES:

While Stadia can use any HID-CLASS USB controller, Google developed its own controller which connects via Wi-Fi directly to the Google data center in which the game is running, to reduce input latency. Google is also exploring further ways to reduce latency, using an idea called "negative latency" which involves prediction of user input through various means so that any apparent network lag between controller and game response is minimized. During its GDC 2019 keynote reveal, Google confirmed that the controller would also feature Google Assistant, which will automatically search YouTube for relevant, helpful videos related to the game they are currently playing at the touch of a key.

Stadia offers two tiers of service, a free level (initially at launch known as "Stadia Base" but after April 2020, simply "Stadia") and a monthly subscription Stadia Pro level. The free Stadia level limits streaming to 1080p resolutions. The Pro tier costs approximately US$10 per month, but allows users to access higher streaming rates up to 4K resolution, access a library of free games over time, and get discounts on other games offered for Stadia. Harrison stated they are also looking into offering publisher subscriptions and other models in the future for example, Ubisoft announced its Uplay Plus (now renamed to Ubisoft+) subscription service will be available to Stadia users. Since April 2020, new users to Stadia are offered a limited period of free access to Stadia Pro features, and retain any games purchased this period to their account if they fall back to the free Stadia level; initially, new users received two months of Pro access, which was reduced to one month starting on June 3, 2020. In March 2021, Google announced that they are adding Touchscreen Controls on Android.

GOOGLE STADIA DROUPOUTED:

In May 2021, at least six lead people for Stadia left Google, including John Justice, the vice-president of Stadia for Google, Sebastien Puel, Stadia's general manager, and Corey May, Stadia's head of creative services and publishing, the latter two joining Raymond at her new studio, further putting the viability of the platform in question. Several of these departures joined Raymond in her new studio, Haven Studios, that she founded after her departure. During the *Epic Games v. Apple* trial, Epic's CEO Tim Sweeney stated that "My understanding is that after a public

launch, Google Stadia has been very significantly scaled back. Google stated in wake of these events that Stadia is "alive and well" with significant plans for expansion in 2021.

To draw more developers to the platform, Stadia announced new revenue sharing programs in July 2021. Through 2023, Stadia will take only a 15% cut of a game's revenue on the platform, up to $3 million, after which their cut returns to their standard rate; this standard rate is not published, though believed to be near the industry-wide 30% average and which Google called as "competitive revenue share terms". Further, Stadia will share 70% of Stadia Pro membership fees to games that entered the service starting in July 2021, the share split based on hours played by Stadia users. Additionally, Stadia will contribute the first month of a new Stadia Pro membership to any developer who draw a new user to the service through affliate links on their game pages.

SARAVANA RAJA G
B.TECH IT B

ART GALLERY

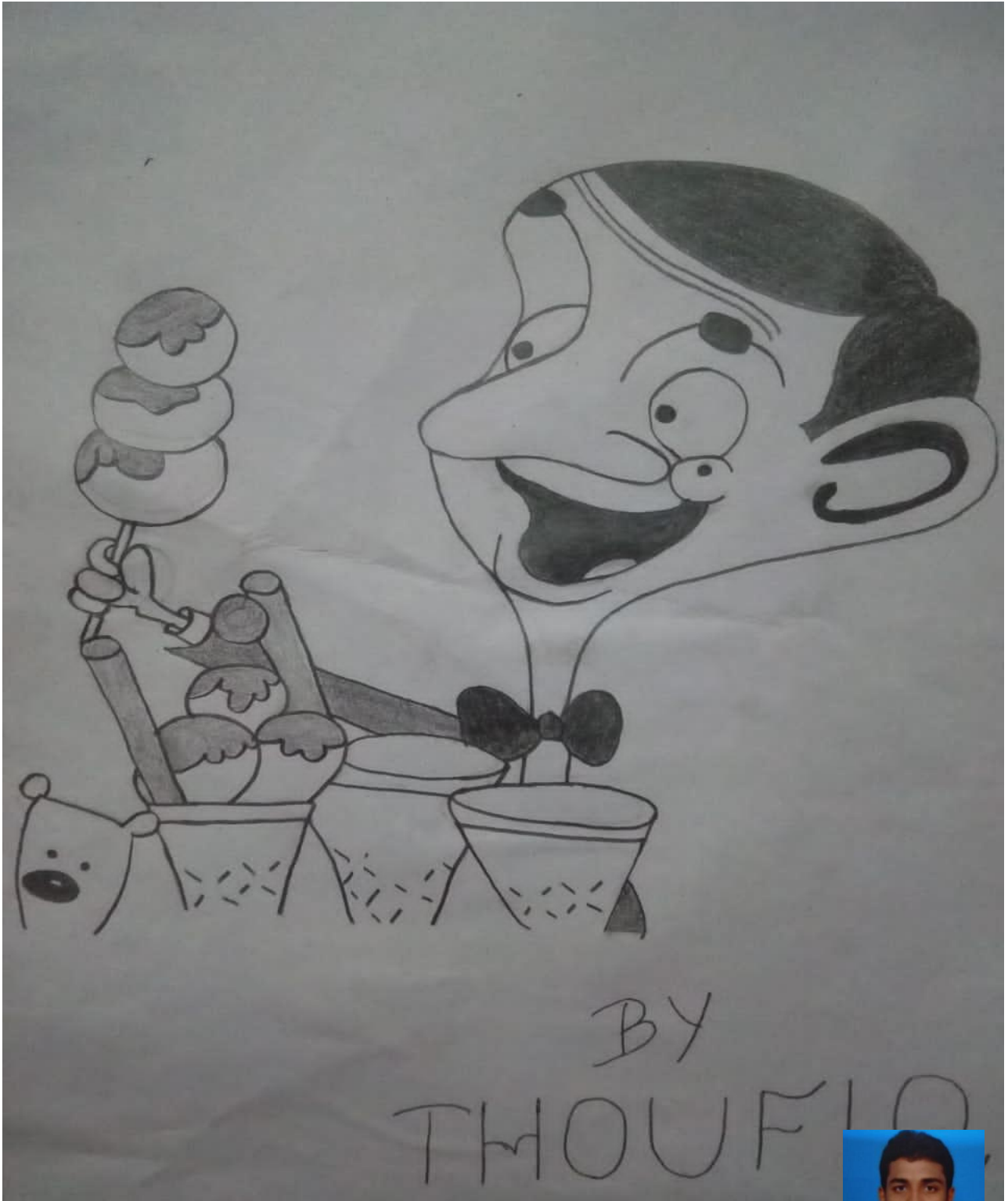**VIGNESH FINAL YEAR IT-B**

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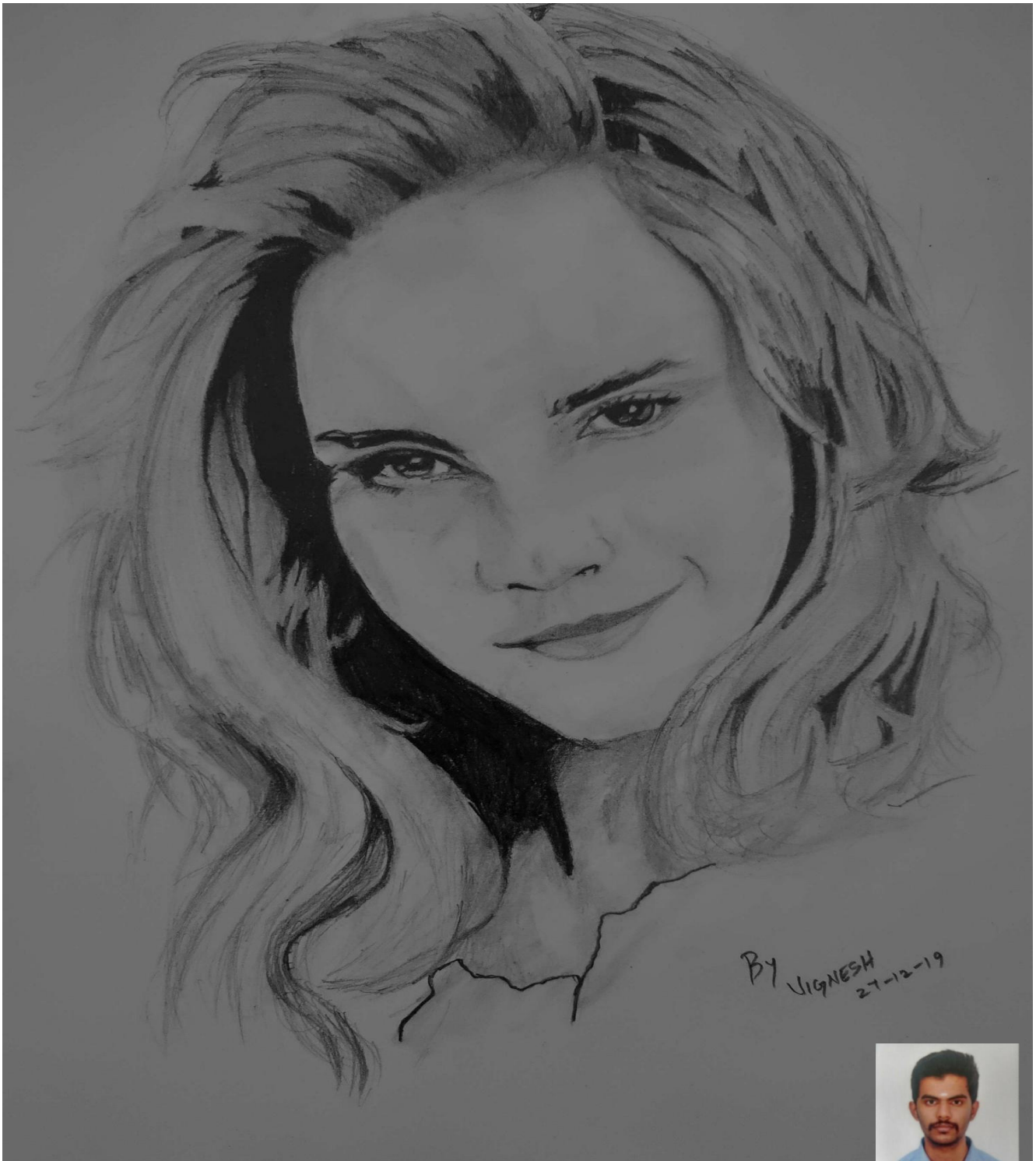
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LATEST TOOLS
BOOTSTRAP

Bootstrap is a flexible and powerful front-end framework that provides a free collection of tools for creating websites and web applications. With HTML, CSS, and JavaScript components Bootstrap makes front-end web development faster and easier for responsive, mobile first projects. It is free and open source; hosted, developed, and maintained on GitHub

Bootstrap is an intuitive and powerful front-end framework for developing responsive, mobile first projects on the web. Its collection of HTML, CSS, and JS components facilitates faster and easier development of websites and web applications

Bootstrap's numerous advantages include:

Easy to get started and use. Bootstrap uses two popular CSS preprocessors, <u>Less</u> and <u>Sass</u>. For those who do not want or know how to use them framework provides the plain CSS file. After downloading the files from Bootstrap's website, developer should unzip them and add to the head of HTML files. These simple steps provide access to the entire framework. Developer can use the default Bootstrap grid and any pre-defined Bootstrap classes with their markup.

- **Consistency and cross browser compatibility**. Bootstrap aims at creating centralised multi-purpose code and uniforming the end result across platforms. It supports the latest versions of all major browsers and gracefully degrades for older browsers such as IE 8. Software that uses Bootstrap ensures platform-independent performance.
- **Mobile first approach**. Starting with version 2.0 the framework supports responsive web design, where the layout of web page adjusts dynamically according to the type and size of device it is viewed on. Since version 3.0, Bootstrap implements a mobile first design styles throughout the entire library.
- **Responsive Grid**. Bootstrap features a responsive 12 column grid system. These grids have classes xs, sm, md and lg each defined in sync with the device resolution. All the developer needs to do is to apply these classes while defining the visibility of an element in the markup. Development of the responsive websites has never been so easy.
- **Rich feature set**. Bootstrap provides dozens of custom HTML and CSS components, JavaScript plugins, responsive 12-column grids, typography, form controls, and a web-based Customizer. Either a fixed or a responsive grid, offsetting and nesting of columns - it is just a matter of a few easy changes. Developer has free access to any of the classes and components and can flexibly use only those objects that are needed in the specific markup without overloading the code.
- **Frequent updates**. Bootstrap is one of the most frequently updated frameworks available on the web. As soon as any issue arises, the Bootstrap development team resolves it and makes new release. Users can always be sure that they work with the most recent and secure tools.

Originally Bootstrap was created by Mark Otto and Jacob Thornton at Twitter in order to encourage consistency across internal tools. Now it has become one of the most widely used front-end frameworks and open source projects in the world. It is modular and its source code consists of a series of LESS files that implement the different components of the toolkit. Bootstrap offers a great number of reusable components, easily and efficiently scales websites and apps with a single code base. It is robust enough to empower any web interface.

Git

Another tool that comes in this list is a popular version control system – Git. It allows you to manage the source codes, track the changes that you've made in your code or even roll back to the previous state in a much convenient way. It saves every change and allows all the developers in the team to work on the same code at the same time without any hassle. It makes the collaboration among developers more smooth by reducing the risk of situations like code conflict, etc. Meanwhile, Git is free to use, open-source, and very much secure – what else you need to get started with the enriching tool for front-end web development.

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.
Git is easy to learn and has a tiny footprint with lightning fast performance. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like cheap local branching, convenient staging areas, and multiple workflows.

Ms.P.Revathi
AP/IT

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Recent Software

WebTitan Software:

WebTitan is a cloud-based internet security solution that monitors for viruses, ransomware, malware and more. It also provides web and DNS filtering control and is suitable for large and midsize businesses across all industries.

Key features include content filtering, which includes bring one's own device (BYOD) web filtering for employees' personal mobile devices. The solution supports the implementation of different policies for different environments, which allows users to enable customized filter outcomes. Reporting, website whitelists and blacklists, configurable content filtering and support for multiple locations are also available.

WebTitan offers various deployment options, including deployments for wifi providers, a cloud-based content filter for hotspot network guests, and industry-based content filters that can be deployed in the cloud or on-premise.

Titan offers services on an annual subscription basis that includes support via phone, email and an online help desk

Cylvia Maybell N
Third Year IT A

Department of Information Technology

Scoro

Scoro is a cloud-based professional services solution for small to midsize companies in advertising, consulting, IT and other industries. The solution provides a control hub that displays pending tasks, account information, key performance indicators (KPIs), calendar events and more on a single screen.

Scoro lets its users stay up to date and see task changes in real time. Tasks that are scheduled for day, week or month automatically populate in a task list that can be sorted by the user. It allows different levels of access to be granted to employees so that only users with permissions are working on that particular project.

Scoro allows users to manage and synchronize multiple calendars, quotes, tasks and projects in a single interface. It has budgeting and invoicing capabilities including sending clients an initial invoice, advanced reporting documents and labor cost tracking.

Cylvia Maybell N
Third Year IT A

A TRIP TO MYSORE

THE HARDEST GOODBYE

August 4th, 2020, Room no: 113, C1-First year hostel, HICET

It all started with eyes filled with droplets of love, feeling lonely, lost in a whole new place, missing home, missing family and excited for a new journey. We all arrived as strangers with a billion dreams, with a mind full of questions of how college life would be very great.

Hostel rooms hold a billion memories, every door knocks to say a plenty of eye melting jokes and every bed and pillow shares a dozen of heart soothing feelings.

The interesting lectures, staff's bonds, last minute placements, assignments that costs our sleep, overnight backlog clearing studies, everyone turning into Shakespeare in every exams, funny raggings, lightening class bunks, night shows, girl's hostel looties, true bonds, heart pumping crush memories, smacking birthday bashes, memorable IVs , energetic symposiums, unpaid fines, enjoyable punishment , sweetest faculty rebukes, cheerful festive cultural events, lil fights and lots of laughter. Wow and this is what we are, superhumans named **Engineers.**

All these blissful memories just went within a wink. There comes an end to every journey in pursuit of the start of a new one. Some of us counting the last days of student life, some planning for higher studies abroad, some taking the dad's burden in sailing the ship,some following their passion and some getting their life partners. And so, the current life coming to a dawn, and life starting with a new sunshine.

We could just do nothing rather than to see everything fly within a blink, looking at the blissful memories. After a couple of years, we could look at our photographs with a few drops of pearls falling from our eyes and could proudly say to our kids,

"Those were the happiest moments of my life!".

College life : A short journey of a group of strangers who turned into a happy family which needed to split up in the end.

"And it's not the goodbyes that hurt, it's the flashbacks that follow".

Miss you all and love you 3000 .

An emotion of every final year student,

By,
D.Prithivi Marathe,
Final year, IT – B.

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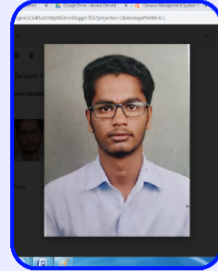
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GET THE BEST IN EVERYTHING

EDUCATION|ETHICS|EXCELLENCE

IT IS IMPORTANT TO FOLLOW YOUR DREAMS AND HEART. DO SOMETHING THAT EXCITES YOU.

-SUNDAR PITCHAI

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