MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

Autonomous Institution – UGC, Govt. of India

Accredited by NBA & NAAC with 'A' Grade

NIRF Indian Ranking, Accepted by MHRD, Govt. of India | Band – Excellent, National Ranking by ARIIA

Maisammaguda, Dhulapally, Secunderabad – 500 010, Telangana

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Under

Student Chapter IEEE, CSI & ISTE & Technical Association CYNOSURS

INFOSPARK

HALF YEARLY TECHNICAL MAGAZINE

DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

CSE

www.mallareddyecw.com

DEPARTMENT VISION

- Visualizing a great future for the intelligentsia by imparting state-of the art Technologies in the field of Engineering and Technology for the bright future and prosperity of the students.
- To offer world class training to the promising Engineers.

DEPARTMENT MISION

- To nurture high level of Decency, Dignity and Discipline in women to attain high intellectual abilities.
- To produce employable students at National and International levels by effective training programmes.
- To create pleasant academic environment for generating high level learning attitudes.

ABOUT THE DEPARTMENT

The Dept. of CSE with an intake of 240 in B.Tech Programme also offers M.Tech programmes in COMPUTER SCIENCE AND ENGINEERING & COMPUTER SCIENCE. The programmes ensure that the student effectively meets the highest benchmarks of competence required by the industry.

The Dept has state of the art laboratories with latest softwares like Windows 2008, Visual Studio 2012, Ecllipse, WinRunner, QTP, J2EE, .NET, Fedora & Weka Tool. The Dept established IEEE & ISTE student chapters and Dept. Technical Association-CYNOSURES under which it organizes National level Technical Symposium - FUTURE SASTRA and State level Technical Symposium MEDHA every academic year and Student Development Programmes like Workshop on Web Designing, Android & its Application, ADOBE PhotoShop, Ethical Hacking and HTML5.

The Department also organizes Pre-placement training programmes on C-Skills, Java Skills and Project Based training programmes on C, C++, JAVA and Web Technologies and also organizes Intra College Student Conferences on Network Security and Data Base Management Systems and Recent Advancements in Computer Science and also organizes regular student seminar sessions of two hours per week for I - IV B.Tech student to enhance their all round performance.

To provide value added certification courses to students, The Dept. established Micro Soft Innovation Center which offers Micro Soft Certification, CISCO Networking Academy which offers CISCO Certification and in association with ORACLE Corporation, India, It offers Java Certification. The Dept. also offers Business English Certification (BEC) with the help of Center for Development of Communication Skills.

PO'S

PO1	Engineering knowledge	An ability to apply knowledge of mathematics (including probability & statistics and Mathematical Foundation of Computer science and Engineering.
PO2	Problem analysis	An ability to design and conduct experiments, as well as to analyze and interpret data including hardware and software components.
PO3	Design / development of solutions	An ability to design a complex computing system or process to meet desired specifications and needs.
PO4	Conduct investigations of complex problems	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering actives with an understanding of the limitations.
PO5	Modern tool usage	An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.
PO6	The engineer and society	An ability to understanding of professional, health, safety, legal,cultural and social responsibilities.
PO7	Environment and sustainability	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and demonstrate the knowledge need for sustainable development.
PO8	Ethics	Apply ethical principles, responsibility and norms of the engineering practice
PO9	Individual and team work	An ability to function on multi-disciplinary teams.
PO10	Communication	An ability to communicate and present effectively
PO11	Project management and finance	An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multi-disciplinary environments
PO12	Life-long learning	A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning

PSO'S

The graduates of the department will attain:

PSO1: The ability to analyze, design, code and test application specific or complex engineering problems in Cryptography and Network Security, Design and Analysis of Algorithm, Computer Networks, Data Mining, Cloud Computing, Mobile Computing, Cloud Computing, Internet of Things (IoT), Data Science, Artificial Intelligence, Machine Learning, Cyber Security, Block chain Technology, and Big Data by applying the knowledge of basic sciences, engineering mathematics and engineering fundamentals.

PSO2: The ability to adapt for rapid changes in tools and technology with an understanding of societal and ecological issues, relevant to professional engineering practice through life-long learning.

PSO3: Excellent adaptability to function in multi-disciplinary work environment, good interpersonal skills as a leader in a team, in appreciation of professional ethics and societal responsibilities.

PEO'S

PEO1

PROFESSIONAL ENHANCEMENT: Provide the students with strong fundamental and advanced knowledge in Mathematics, Science and Engineering with respect to Computer Science and Engineering discipline with an emphasis to solve Engineering problems.

PEO2

CORE COMPETENCE: Prepare the students through well - designed curriculum to excel in various programmes in Computer Science and Engineering, to meet the needs of the industry and for higher education pursuit.

PEO3

TECHNICAL ACCOMPLISHMENTS: Train the students with intensive and extensive engineering knowledge and skill to analyze, design and create novel products and solutions in the field of Computer Science and Engineering.

PEO4

PROFESSIONALISM: To inculcate in students professional attitude, multidisciplinary approach, ethics, team work, communication, ability to relate computer engineering issues with societal needs and contribute towards nation building.

PEO5

LEARNING ENVIRONMENT: To provide students with an academic environment that inculcates the spirit of excellence, creativity, innovation, leadership, lifelong learning, ethical codes and guidelines to become a successful professional in Computer Science and Engineering.

MESSAGES

Founder Chairman's Message

MRECW has made tremendous progress in all areas and now crossing several milestones within a very short span of time and now I feel very happy to know that the students and faculty of the CSE Department of MRECW are bringing out the volume-2 of the Technical magazine INFOSPARK in A.Y 2020-21. As I understand this magazine is intended to bring out the inherent literary talents in the students and the teachers and also to inculcate leadership skills among them. I am confident that this issue will send a positive signal to the staff, students and the persons who are interestedin the educational and literary activities.

Ch. Malla Reddy
Founder Chairman, MRGI
Hon'ble Minister, Govt. of Telangana State

Principal's Message

I congratulate the department of CSE, MRECW for bringing out the Second issue of the prestigious half yearly department technical Magazine INFOSPARK under A.Y: 2020-21, I am sure that the magazine will provide a platform to the students and faculty members to expand their technical knowledge and sharpen their hidden literary talent and will also strengthen the all round development of the students. I am hopeful that this small piece of literary work shall not only develop the taste for reading among students but also develop a sense of belonging to the institution as well. My congratulations to the editorial board who took the responsibility for the arduous task most effectively. I extend best wishes for the success of this endeavor.

Dr. Y. Madhavee Latha
Principal

HOD'S MESSAGE

INFOSPARK-2021,Our Department magazine show cases thevarious achievements and talents of students. The primary objective of the department has been to impart quality technical education to the students. We providing the students with most conductive academic environment and making them towards serving the society with advanced technologies. Our department provides training sessions, workshops, hands-on, webinars, Industrial visits, Internships and Personality development classes. I am privileged to offer my best wishes. I congratulate students who have contributed their articles in huge volume.

Dr.C.V.P.R.PRASAD
Professor and HOD

FACULTY ARTICLES

COGNITIVE SCIENCE TECHNOLOGY

Cognitive computing is the branch of computer science concerned with solving complex problems that may have dynamically shifting situations and information-rich data that tend to frequently change and sometimes even conflict with each other. A human may deal with such problems by evolving goals and changing objectives, but traditional computing algorithms are not able to adapt to such change. In order to deal with these sorts of problems, cognitive computing systems have to weigh the conflicting data and suggest an answer that best fits the situation rather than what is "right." Though there is currently no agreed-upon definition of cognitive computing in the industry or the academe, the term is often used to describe new technology that mimics the way thathuman brain functions and how it approaches problem solving.and responds to stimuli around it. Its greatest applications would be in data analysis and adaptive output, adjusting output to fit a particular audience. Properties of a cognitive computing system include: Contextual – Understands and extracts contextual elements such as meaning, time, location, process and others based on multiple sources of information. For example, it may be fed with data such as road, ambulance, injury and wreckage and come up with the context of a vehicular accident. Adaptive – This is the learning portion. It adapts to new information and stimuli to resolve.

Mr. V.SUNDARA RATNAM
AssociateProfessor

DIGITAL JEWELR

Digital jewelry is the fashion jewelry with embedded intelligence. It can best be defined as wireless, wearable computers that allow you to communicate by ways of e-mail, voicemail, and voice communication. In this post, we shall go through how various computerized jewelry (like earrings, necklace, ring, bracelet, etc.,) will work with mobile embedded intelligence.Soon, cell phones will take a totally new form, appearing to have no form at all. Instead of one single device, cell phones will be broken up into their basic components and packaged as various pieces of digital jewelry or other wearable devices. Each piece of jewelry will contain a fraction of the components found in a conventional mobile phone. Together, the digital-jewelry cell phone should work just like a conventional cell phone.The various components that are inside a cell phone are Microphone, Receiver, Touchpad, Display, Circuit Board, Antenna, Battery.IBM has developed a prototype of a cell phone that consists of several pieces of digital jewelry that will work together wirelessly, possibly with Bluetooth wireless technology, to perform the functions of the above2 components.Here are the pieces of computerized-jewelry phone and their functions:Earrings – Speakers embedded into these earrings will be the phone's receiver.Necklace – Users will talk into the necklace's embedded microphone.Ring – Perhaps the most interesting piece of the phone, this "magic decoder ring, is equipped with light-emitting diodes (LEDs) that flash to indicate an incoming call. It can also be programmed to flash different colors to identify a particular caller or indicate the importance of a call.Bracelet – Equipped with a video graphics array (VGA) display, this wrist display could also be used as a caller identifier that flashes the name and phone number of the caller.JAVA RING:With a jewelry phone, the keypad and dialing function could be integrated into the bracelet, or else dumped altogether – it's likely that voice-recognition software will be used to make calls, a capability that is already commonplace in many of today's cell phones. Simply say the name of the person you want to call and the phone will dial that person. IBM is also working on a miniature rechargeable battery to power these components.

Ms. AARATI KASTURI
Assistant Professor

STUDENT ARTICLES

5G WIRELESS TECHNOLOGY

In telecommunications, 5G is the fifth generation technology standard for broadband cellular networks, which cellular phone companies began deploying worldwide in 2019, and is the planned successor to the 4G networks which provide connectivity to most current cellphone. 5G is the fifth generation of cellular networks, and it is expected to be one of the fastest wireless technologies ever created. ... 5G wireless technology means that you'll have quicker downloads (imagine downloading a 4K movie in seconds rather than minutes) and huge impacts on how you work and play.Emerging 5G networks feature lower latency, higher capacity, and increased bandwidth compared to 4G. These network improvements will have far-reaching impacts on how people live, work, and play all over the world. Emerging 5G networks feature lower latency, higher capacity, and increased bandwidth compared to 4G.The main advantages of the 5G are a greater speed in the transmissions, a lower latency and therefore greater capacity of remote execution, a greater number of connected devices and the possibility of implementing virtual networks (network slicing), providing more adjusted connectivity to concrete needs.

K. Soujanya
19RH1A05C2

ARTIFICIAL NEURAL NETWORK

An artificial neural network learning algorithm, or neural network, or just neural net, is a computational learning system that uses a network of functions to understand and translate a data input of one form into a desired output, usually in another form. The concept of the artificial neural network was inspired by human biology and the way neurons of the human brain function together to understand inputs from human senses. Machine learning algorithms that use neural networks generally do not need to be programmed with specific rules that define what to expect from the input. The neural net learning algorithm instead learns from processing many labelled examples (i.e. data with"answers") that are supplied during training and using this answer key to learn what characteristics of the input are needed to construct the correct output. Once a sufficient number of examples have been processed, the neural network can begin to process new, unseen inputs and successfully return accurate results. The more examples and variety of inputs the program sees, the more accurate the results typically become because the program learns with experience.

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Kritika Bhagavatula
19RH1A0563

BLOCKCHAIN-BASED RECOMMENDER SYSTEM

Recommender systems have been widely used in different application domains including energy-preservation, e-commerce, healthcare, social media, etc. Such applications require the analysis and mining of massive amounts of various types of user data, including demographics, preferences, social interactions, etc. in order to develop accurate and precise recommender systems. Such datasets often include sensitive information, yet most recommender systems are focusing on the models' accuracy and ignore issues related to security and the users' privacy. Despite the efforts to overcome these problems using different risk reduction techniques, none of them has been completely successful in ensuring cryptographic security and protection of the users' private information. To bridge this gap, the blockchain technology is presented as a promising strategy to promote security and privacy preservation in recommender systems, not only because of its security and privacy salient features, but also due to its resilience, adaptability, fault tolerance and trust characteristics. This paper presents a holistic review of blockchain-based recommender systems covering challenges, open issues and solutions. Accordingly, a well-designed taxonomy is introduced to describe the security and privacy challenges, overview existing frameworks and discuss their applications and benefits when using blockchain before indicating opportunities for future research.

M. Nandini
20RH1A05C8

FACE UNLOCKING IN SMARTPHONES

Facial recognition is a part of biometric technology that identifies a person by face .It is described as Biometric Artificial Intelligence whichis used to capture a person's facial features like eye retina, nose, face shape .Initially Android operating system introduced face unlocking from its Android version(4.0) in 2011 but the main drawback of this unlocking technique was it can only be used to store 2D images so it was very easy for anyone to fool the system and unlock the phone. Next Samsung came up with an iris scanner which works based on retina of the eye, just like human fingerprints are unique retina of eye is also unique no one can copy it .one disadvantage of iris technology is that it generally requires close proximity to camera, which can cause discomfort to eyes. Face ID is a type of facial recognition technology that Apple company has designed in 2017.It is more promising with its accuracy and security and it is based on 3D facial recognition sensor.Of all the biometric measurements, facial recognition is considered the most natural and also this makes sense, since we typically recognize ourselves and others by looking at faces, rather than thumbprints and iris.Facial recognition technology is been in use for the past few years andwith the improvements in security and speed, the technology is evolving slowly to newer heights and advanced levels.

L. ANUSHA REDDY
18RH1A05B7

DEEP WEB

Deep web also called as hidden web or invisible web refers to parts of the Internet not fully accessible through standard search engine like Google, Yahoo and Bing. The deep web includes pages that were not indexed, fee-for-service sites, private databases and the dark web. It is different from the surface web, where contents can be accessed through search engines. Most experts estimate that the deep web is much bigger than the surface web.

Fee-for-service sites are one of the major sources of deep web content. Although fee-for-service
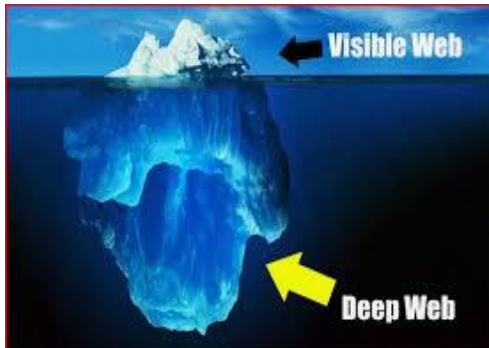
sites such as Netflix, Amazon Prime are visible on the web, most of their content is not. Customers must pay a fee, create a user id, and set up a password to get most of the material offered by these sites. Only those willing and able to pay the fees for these sites can get access to their content. This restriction of information to paying customers goes against the egalitarian spirit of the early Internet. Private databases are also a crucial component of the deep web. Private databases can be as simple as a few photos shared between friends on Dropbox. They also include financial transactions made on major sites like PayPal. The crucial feature of private databases is that people what to share or preserve this information without sharing it with everyone. That makes it part of the deep web rather than the surface web.

The deep web gives users access to far more information than the surface web. This information may simply be pages that aren't important enough to be listed. Privacy, which is usually provided by encryption, is another benefit of the deep web. Encryption on the deep web allows fee for service sites to keep their content away from non paying Internet users while serving it to their customers. The encryption of databases is absolutely necessary for all forms of fintech to function properly. Without this security, neither firms nor individuals could safely conduct financial transactions over the Internet.

G. RAMYA SREE

18RH1A0563

VIRTUAL REALITY

Virtual reality (VR) is implemented utilizing computer technology. There are many systems that are used for precise intention which are accustomed to stimulate our senses collectively to create the illusion of reality.Immersionis the feature involved in VR which will fill the peripheral vision bycancelling all surrounding sound and headphones that will put them in a scene will give control over the scene with the head movements. Virtual reality implies a complete immersion experience by shutting out the physical world completely.VR will also help the users to interact with scene and control object or actions in the scene accordingly. The ability to pick objects in a scene and interact with the characters will improve immersion further as well as add to the value of the VR simulation.Using VR users can be transported into a number of real-world and imagined environments such as the middle of a penguin colony or a dragon city. The devices such as VR glasses with Bluetooth remote gaming controller and headsets can be used to get a virtual experience.Augmented reality is different from Virtual reality, in augmented reality the various objects are placed into real world providing the user a real-time as well as graphical experience. It is mostly used in games, interior designing applications. Virtual reality is the creation of virtual surroundings introduced to our senses in this method we feel that we are truly there in the completely different virtual world.

H. TARUNA SREE
18RH1A0572

Biometric security

Technology is integrated into just about every aspect of modern life – and with the ever-increasing digitization of our world, it has become more difficult to safeguard confidential information. Keys and passwords are no longer sufficient data security measures. Passwords, in fact, pose a huge vulnerability in a company's security system due to their shareability and ease of cracking.

With the abundance of and network security breaches and the rise of identity theft, it is clear that stronger authentication methods are necessary. One such method is biometric security systems. In this article, we'll take a close look at what biometric security is and why it's the future of identification and authentication.Biometric security is a security mechanism that identifies people by verifying their physical or behavioral characteristics. It is currently the strongest and most accurate physical security technique that is used for identity verification. Biometrics are mainly used in security systems of environments that are subject to theft or that have critical physical security requirements. Such systems store characteristics that remain constant over time – for instance, fingerprints, voice, retinal patterns, facial recognition, and hand patterns.These characteristics are stored as "templates" in the system. When somebody tries to access the system, the biometric security system scans them, evaluates the characteristics, and attempts to match them with stored records. Then, if a match is found, the person is given access to the facility or device.

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M.Sathwika
20RH1A05D3

COMPUTER GRAPHICS

Computer graphics deals with generating images with the aid of computers. Today, computer graphics is a core technology in digital photography, film, video games, cell phone and computer display and many specialized applications. A great deal of specialized hardware and software has been developed, with the displays of most devices being driven by computer graphics hardware. It is a vast and recently developed area of computer science. The phrase was coined in 1960 by computer graphics researchers Verne Hudson and William Fetter of Boeing. It is often abbreviated as CG, or typically in the context of film as computer generated imagery (CGI). The non-artistic aspects of computer graphics are the subject of computer science research.Some topics in computer graphics include user interface design, sprite graphics, rendering, ray tracing, geometry processing, computer animation, vector graphics, 3D modelling, shaders, GPU design, implicit surfaces, visualization, scientific computing, image processing, computational photography, scientific visualization, computational geometry and computer vision, among others. The overall methodology depends heavily on the underlying sciences of geometry, optics, physics, and perception.Computer graphics is responsible for displaying art and image data effectively and meaningfully to the consumer. It is also used for processing image data received from the physical world, such as photo and video content. Computer graphics development has had a significant impact on many types of media and has revolutionized animation, movies, advertising, video games, in general.

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S . Madhurya
20RH1A05D4

DIGITAL THERAPEUTICS

Patients who have chronic illnesses often require ongoing care from their physicians. This care can include patient education, symptom monitoring, medication adjustment, and behavior changes. Not only is this care costly, but it is also very time-consuming for both medical staff and patients. Digital therapeutics are prescribed by a doctor to a patient for their particular medical condition. These sophisticated software programs can be accessed as apps on a patient's smartphone or through a personal computer. They go through the same rigorous testing as all medications, including randomized clinical trials. Medical conditions that are well suited for digital therapeutics include diabetes type I and type II, cancer, anxiety, musculoskeletal pain, ADHD, asthma, migraines, insomnia, and substance abuse.As patients use the applications, information about their wellbeing is reported back to their physician. This allows doctors to be able to monitor patients without having to see them regularly, as well as spot problems much earlier than when a patient needs to wait for an appointment.

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M.MADHU PRIYA
20RH1A05E0

WEARABLE DETECTS MALARIA

Observational studies on the use of commercially available wearable devices for infection detection lack the rigor of controlled clinical studies,wheretime of exposure and onset of infection are exactly known.Towards that end, we carried out a feasibility study using a commercial smart watch for monitoring heart rate, skin temperature, and body acceleration on subjects as theyunderwent a controlled human malaria infection (CHMI)challenge. Methods: Ten subjects underwent CHMI and were asked to wear the smart watch for at least 12 hours/day from 2 weeks pre-challenge to 4 weeks post-challenge. Using these data, we developed 2B-Healthy, a Bayesian-based infection-prediction algorithm that estimates a probability of infection. We also collected data from eight control subjects for 4 weeks to assess the false-positive rate of 2BHealthy. Results: Nine of 10 CHMI subjects develop edparasitemia, with an average time to parasitemia of 12 days.2B-Healthy detected infection in seven of nine subjects (78% sensitivity), where in six subjects it detected infection 6 days before parasitemia (on average).In the eight controlsubjects, we obtained a false-positive rate of 6%/week.The 2B-Healthy algorithm was able to reliably detect infection prior to the onset of symptoms using data collected from a commercial smart watch in a controlled human infection study. Significance: Our findings demonstrate the feasibility of wearables as a screening tool to provide early warning of infection and support further research on the use of the 2B-Healthy algorithm as the basis for a wearable infection-detection platform MS.

M.RAJESWARI
20RH1A05E3

CLOUD COMPUTING IS THE THIRD WAVE OF DIGITAL REVOLUTION

As a metaphor for the Internet, 'the cloud' is a familiar cliche, but when combined with 'computing,' the meaning gets bigger and fuzzier. Cloud computing encompasses any subscription-based or pay-per-use service that, in real time over the Internet, extends IT's existing capabilities. In a cloud computing system, there's a significant workload shift. Local computers no longer have to do all the heavy lifting when it comes to running applications. The network of computers that make up the cloud handles them instead. Hardware and software demands on the user's side decrease. The only thing the user's computer needs to be able to run is the cloud computing system's interface software, which can be as simple as a Web browser, and the cloud's network takes care of the rest. A fundamental concept behind cloud computing is that the location of the service, and many of the details such as the hardware or operating system on which it is running, are largely irrelevant to the user. It's with this in mind that the metaphor of the cloud was borrowed from old telecoms network schematics, in which the public telephone network (and later the internet) was often represented as a cloud to denote that the just didn't matter -- it was just a cloud of stuff. This is an over-simplification of course; for many customers location of their services and data remains a key issue.

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M.Sri Laxmi
20RH1A05E9

EMBEDDED WEB TECHNOLOGY

Embedded Web Technology is the merging of Embedded Systems with the World Wide Web. Embedded Web Technology' decreases the cost of developing and maintaining the user interface by allowing the user to interface to the embedded system through a web browser running on a standard personal computer.An embedded system is a computer that has been built to solve only a few very specific problems and is not easily changed. The word embedded means it is built into the system.These Embedded systems may not have disk drives, keyboards, display devices and are typically restricted in terms of power, memory, GUIs and debugging interfaces.The central building blocks are microcontrollers, i.e. microprocessors integrated with memory units and specific peripherals for the observation and control of these embedded systems.On the other hand, Web technologies employ client-server models.The embedded Web system works on the same principle as that traditional Web request-response systems. Web pages from the embedded system (server) are transmitted to the Web browser (client).

M.Srija
20RH1A05F0

AUTOMATIC NUMBER PLATE RECOGNITION (ANPR)

This is a technology that uses optical character recognition on images to read vehicle registration plates to create vehicle location data. It can use existing closed-circuit television, road-rule enforcement cameras, or cameras specifically designed for the task. ANPR is used by police forces around the world for law enforcement purposes, including to check if a vehicle is registered or licensed. It is also used for electronic toll collection on pay-per-use roads and as a method of cataloguing the movements of traffic, for example by highways agencies. Automatic number-plate recognition can be used to store the images captured by the cameras as well as the text from the license plate, with some configurable to store a photograph of the driver. Systems commonly use infrared lighting to allow the camera to take the picture at any time of day or night. ANPR technology must take into account plate variations from place to place. Privacy issues have caused concerns about ANPR, such as government tracking citizens' movements, misidentification, high error rates, and increased government spending. Critics have described it as a form of mass surveillance. ANPR was invented in 1976 at the Police Scientific Development Branch in Britain.

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.   M. Sreeja
                                       20RH1A05F1

WIRELESS RECHARGEABLE SENSOR NETWORKS

When extending the life of Wireless Rechargeable Sensor Networks (WRSN), one challenge is charging networks as they grow larger. Overcoming this limitation will render a WRSN more practical and highly adaptable to growth in the real world. Most charging algorithms require a priori full knowledge of sensor nodes' power levels in order to determine the nodes that require charging. In this work, we present a probabilistic algorithm that extends the life of scalable WRSN without a priori power knowledge and without full network exploration. We develop a probability bound on the power level of the sensor nodes and utilize this bound to make decisions while exploring a WRSN.We verify the algorithm by simulating a wireless power transfer unmanned aerial vehicle, and charging a WRSN to extend its life. Our results show that, without knowledge, our proposed algorithm extends the life of a WRSN on average 90% of what an optimal full knowledge algorithm can achieve. This means that the charging robot does not need to explore the whole network, which enables the scaling of WRSN. We analyze the impact of network parameters on our algorithm and show that it is insensitive to a large range of parameter values.

20RH1A05F5
N. Sai Nikitha

HUMANOID ROBOT

GRIN technologies (genomics, robotics, information, and nanotechnologies) are changing the way we learn, play, work, and interact (O'Hara, 2007). Robot teachers offer opportunities but also challenges for teachers, unlike the classroom aids of the past. On the one hand, they make new ways of teaching and learning possible, and their presence helps to prepare children for a world of AI-enabled products with which they will have to interact daily. On the other hand, robots may degrade human interaction, encourage laziness in thinking, and narrow what is exercised to what robots can do. Their novelty is attractive, but there are understandable reservations about their use in the classroom. There is a danger that we will drift into the future without forethought about how to use and not use robot teachers (SCAI, 2018). With robots present, human teachers' roles will need to change in order to maximize the benefits while minimizing the detriments. At times, this should go beyond a simple division of labor between teacher and robot (HI and AI), to include collaborative teaching between HI and AI when, together, they produce a more effective learning experience for the students, and illustrate HI/AI collaboration, modeled by the teacher. Working with highly sophisticated robots is likely to bring about a change in teacher identity, moving it from a largely solitary responsibility for students' learning toward a more or less joint enterprise, but one in which the human teacher has oversight of and manages the teaching. In the foreseeable future, robot teachers are likely to have a significant impact on teaching.

N.Vaishnavi
20RH1A05F8

INTERNET OF THINGS

The Internet of Things, or "IOT" for short, is about extending the power of the internet beyond computers and smartphones to a whole range of other things, processes, and environments. Here's everything you need to know.The Internet of Things (IOT) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. Connecting things to the internet yields many amazing benefits. We've all seen these benefits with our smartphones, laptops, and tablets, but this is true for everything else too. And yes, I do mean everything. The Internet of Things means taking all the things in the world and connecting them to the internet. When it comes to the internet and data security, your work is never done. As technology gets more connected and complex, there will be new hacking techniques discovered.

N.SREE SAI HARSHITHA
20RH1A05F9

IMPORTANT WEBSITES

www.ieee.org/india

www.engineering.careers360

https://www.coursera.org/in

https://www.udemy.com/

www.mathworks.in/products/matlab/

https://archive.org/details/texts

https://www.codecademy.com/

https://www.cse.org/

https://www.scribd.com/books

https://books.google.co.in/

MathGV.com/

http://www.engineeringchallenges.org/

https://www.lumosity.com/en/

http://elevateapp.com/

http://www.tryengineering.org/

http://www.engineergirl.org/

http://www.discoverengineering.org/

http://www.eng-tips.com/

http://efymag.com

http://efymagonline.com/

www.dspguide.com

https://www.engineer4free.com/

www.howstuffworks.com

http://nptel.iitm.ac.in

http://www.opencircuitdesign.com/

http://www.futuresinengineering.com/

INFOSPARK

MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

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