



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 ISTE, CSI & Technical Association Electro Spikes

INSPERON

HALF YEARLY TECHNICAL MAGAZINE

**DEPARTMENT OF
INFORMATION TECHNOLOGY**

IT

DEPARTMENT VISION

To emerge as a center of excellence in the department of IT is to empower students with new wave technologies to produce technically proficient and accomplished intellectual IT professionals specifically to meet the modern challenges of the contemporary computing industry and society.

Providing the students with most conducive academic environment and making them towards serving the society with advanced technologies.

Vision



DEPARTMENT MISSION

The mission of the department of Information Technology is to afford excellence education for students, in the conventional and modern areas of information technology and build up students with high-quality principled trainings, thus manifesting their global personality development.

To impart holistic technical education using the best of infrastructure, outstanding technical and teaching expertise.

Training the students into competent and confident world class professionals with excellent technical and communication skills.

To provide quality education through innovative teaching and learning process that yields advancements in state-of-the-art information technology.

To inculcate the spirit of ethical values contributing to the welfare of the society by offering courses in the curriculum design.

Mission



ABOUT THE DEPARTMENT

The Dept. of Information Technology with an intake of 180 in B.Tech Programme The programmes ensure that the student effectively meets the highest benchmarks of competence required by the industry.

The Department has state of the art laboratories with latest software's like Windows 2008, Visual Studio 2012, Eclipse, WinRunner, QTP, J2EE, .NET, Fedora & Weka Tool.

The Dept established IEEE & ISTE student chapters and department 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.

The Department also offers Value added Certification Courses BEC, Microsoft and CISCO certification through Business English Certification in association with Cambridge University, London, U.K., Microsoft & CISCO Certification through Center for Development of Communication Skills, Microsoft Innovation Center and CISCO Networking Academy respectively. More than 85% of students are placed in MNC s like Campgemini, WIPRO, TCS, IBM, NTT Data, HCL, Tech Mahindra, etc. The Department also publishes the Registered Journal "International Journal of Research in Signal Processing, Computing and Communication-System design (IJRSCSD) with an ISSN: 2395-3187.

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 activities 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 a problem, design algorithm, identify and define the computing requirements within realistic constraints in multidisciplinary areas by understanding the core principles and concepts of Information Technology

PSO2: Knowledge of data management system like data acquisition, big data so as to enable students in solving problems using the techniques of data analytics like pattern recognition and knowledge discovery.

PSO3: Effectively integrate IT based solutions into the user environment.

PEO'S

PEO1

- Apply current industry computing practices and emerging technologies to analyze, design, implement, test and verify IT based solutions to real world problems.

PEO2

- To produce employable graduates who will be placed in various engineering positions in the computational world in firms of international repute.

PEO3

- To pursuit of advanced degrees in engineering at different levels of research and consultancy. They get exposed to several other domains resulting in lifelong learning to broaden their professional knowledge.

PEO4

- Use theoretical and practical concepts of various domains to realize new ideas and innovations, entrepreneurship, employment and higher studies.

MESSAGES

Founder Chairman's Message



Ch. Malla Reddy

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

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 IT department of MRECW are bringing out the volume-1 of the Technical magazine INSUPERON in A.Y 2022-23. 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 interested in the educational and literary activities

Principal's Message

I congratulate the department of IT, MRECW for bringing out the first issue of the prestigious half yearly department technical Magazine INSUPERON under A.Y: 2022-23, 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

INSUPERON-2023, Our Department magazine show cases the various 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 conducive 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. SUBBA REDDY
BORRA**

HOD

FACULTY ARTICLES

Mitigation of Water Fouling

Computer technology is leading to more accurate sizing and rating methods for process equipment. Heat exchangers are designed with high-precision prediction methods and complex [numerical techniques](#) to account for the local flow and temperature conditions. Fouling mitigation is just changing from an art to a science-based technology. The real benefits of sophisticated design codes will not be achieved without reliable fouling prediction methods and mitigation techniques that can be incorporated into the design phase. Recent developments in the computer technology provide an opportunity to productively use fouling information that is scattered in the literature, industry log books, and in reports. A long-term goal for the industry is to develop a knowledge-based system for designing and operating [heat exchangers](#) with a minimum impact of water fouling. The major challenges to develop the knowledge-based system are as follows:

1. Compilation and organization of the fouling data
2. Easy access by both research organizations and industry
3. Development of a logic system for interpreting the fouling data
4. Industrial acceptance of such knowledge-based systems

This task is more important for the fouling-mitigation technology as compared to other engineering areas. One has to rely on the best possible approach to mitigate fouling for a given set of conditions. In the absence of such information, either mitigation methods are overutilized, with high chemical costs, or underutilized, with high maintenance and production costs.



Dr. P. ShanmugaPriya
Assistant professor

PLASTIC SOLAR CELL TECHNOLOGY

Do you know that we have plastic solar cell?

A solar cell is made up of two layers of silicon that are treated to let electricity flow through them when exposed to sunlight. Now coming to plastic solar cell, Plastic solar cells consist of a plastic layer on glass or a flexible foil. In the lab, we use glass plates with a transparent electric contact.

On top of this contact, we put the ink for the active layer, which is the part of the solar cell that converts sunlight to electricity. This ink contains two polymers, a long green one and a shorter red one. The polymers form a mixed layer. On top of that layer, we put a metal layer, which functions as the negative (-) pole. We then turn the whole stack of layers upside down such that sunlight can shine through the glass into the active layer.

The difference between solar cell and plastic solar cell is, Traditional crystalline solar cells are typically made of silicon. An organic solar cell uses carbon-based materials and organic electronics instead of silicon as a semiconductor to produce electricity from the sun. Organic cells are also sometimes referred to as “plastic solar cells” or “polymer solar cells”.



Dr. K.JAYARAJAN
Professor

Extended Reality (XR)

Extended reality (XR) is an umbrella term for any technology that alters reality by adding digital elements to the physical or real-world environment to any extent and includes, but is not limited to, augmented reality (AR), mixed reality (MR) and virtual reality (VR). Any new technology that blends the physical and virtual world will also be categorized as XR. The “X” in XR stands for any variable—any letter of the alphabet—that may be used in the future for such technologies.

. By bringing all of this together, XR can uncover a broad new spectrum of opportunities across real and virtual-based environments. Extended reality extends across VR, AR and MR, as well as all future immersive technologies that enable an extension of reality while blending virtual graphics with real-world elements. Such technologies include, for example, Artificial Intelligence (AI), Internet of Things (IoT), 5G network, and others. XR covers the full spectrum of real and virtual environments.



Dr. AR.SIVA KUMARAN
Professor

Role of Statistics in Machine Learning

Machine learning is a field of predictive modelling done based on data set. Data analysis is most important to perform the predictions. So, to do this, Statistics plays a major role. Statistics is generally considered a prerequisite to the field of applied machine learning. Statistics is a collection of tools for summing data and quantifying properties of a domain given a sample of observations. We need statistics to help transform observations into information and to answer questions about samples of observations like

What is the most common or expected observation?

- What are the limits on the observations?
- What does the data look like?
- Which features or variables are most relevant?
- What is the difference in an outcome between two experiments?
- Are the differences real or the result of noise in the data?
- What is the range of values in each feature?

The statistical tools that we use in practice can be helpful to divide the field of statistics into two large groups of methods: descriptive statistics for summing data and inferential statistics for outlining conclusions from samples of data.

Descriptive Statistics refer to methods for outlining raw observations into information that we can understand and share. Commonly, we think of descriptive statistics as the calculation of statistical values on samples of data in order to sum up the properties of the sample of data, such as the common expected value (e.g. mode or mean or median) and the spread of the data (e.g. the variance or standard deviation). Descriptive statistics may also cover graphical methods like Charts and graphics to understand the shape or distribution of observations as well as how variables may relate to each other.

Inferential Statistics refers to the methods that helps in quantifying properties of the domain or population from a smaller set of obtained observations called a sample. Commonly, we think of inferential statistics as the estimation of quantities from the population distribution, such as the expected value or the amount of spread. The most common tools for Inferential Statistics methods used are hypothesis tests which includes null hypothesis and alternate hypothesis, confidence intervals, and regression analysis. One example to better understand the inferential statistics is to estimate the average salary of IT engineer throughout the country. To do this, we can apply the inferential statistics like to collect salary from predefined selective number of IT engineers from a particular city, say Hyderabad. Use this sample data to estimate the average salary of IT engineer throughout the country.

Conclusion: In Descriptive Statistics, we need to first choose a dataset that we need to describe. We then measure the subjects in the group but Inferential Statistics allow us to make predictions (inferences) from a given sample data set. The aim of Inferential Statistics is to form interpretations and make a broad statement of the population data beyond the immediate data available. So, Inferential Statistics are more ambitious to perform than Descriptive Statistics.

Dr. P.SRIVANI
Professor



Block chain Technology

Along with the growing population the technologies are also improving a lot. And so as the data. Approximately every individual generates 1.7MB of data every second. Handling this huge amount of data is a challenging task. In order to maintain the data securely we need a platform and this is where the use of block chain technology comes into effect.

Block chain is a method of recording information that makes it impossible or difficult for the system to be changed, hacked or manipulated. It is a distributed ledger that duplicates and distributes transactions across the network of computers participating in the block chain. Its applications are not just limited to the financial transactions but also in other fields including education, health, logistics, crypto currencies, online identity verification and many more.



Mr. M.PREMCHANDER
ASSISTANT PROFESSOR

INTERNET AS A SERVICE

Having a unified design language was amenable to writing cross-platform features because it meant that designs, component names, and screens were consistent across platforms. However, we were still able to make platform-appropriate decisions where applicable. For example, we use the native Toolbar on Android and UINavigationController on iOS and we chose to hide disclosure indicators on Android because they don't adhere to the Android platform design guidelines.

We opted to rewrite components instead of wrapping native ones because it was more reliable to make platform-appropriate APIs individually for each platform and reduced the maintenance overhead for Android and iOS engineers who may not know how to properly test changes in React Native. However, it did cause fragmentation between the platforms in which native and React Native versions of the same component would get out of sync.

While developing in React Native, we were able to reliably use hot reloading to test our changes on Android and iOS in just a second or two. Even though build performance is a top priority for our native apps, it has never come close to the iteration speed we achieved with React Native. At best, native compilation times are 15 seconds but can be as high as 20 minutes for full builds.

We developed extensive integrations into our native infrastructure. All core pieces such as networking, i18n, experimentation, shared element transitions, device info, account info, and many others were wrapped in a single React Native API. These bridges were some of the more complex pieces because we wanted to wrap the existing Android and iOS APIs into something that was consistent and canonical for React. While keeping these bridges up to date with the rapid iteration and development of new infrastructure was a constant game of catch up, the investment by the infrastructure team made product work much easier. Without this heavy investment in infrastructure, React Native would have led to a subpar developer and user experiences. As a result, we don't believe React Native can be simply tacked on to an existing app without a significant and continuous investment. One of the largest concerns around React Native was its performance. However, in practice, this was rarely a problem. Most of our React Native screens feel as fluid as our native ones. Performance is often thought of in a single dimension. We frequently saw mobile engineers look at JS and think "slower than Java". However, moving business logic and layout off of the main thread actually improves render performance in many cases.

When we did see performance issues, they were usually caused by excessive rendering and were mitigated by effectively using should Component Update, remove Clipped Sub views, and better use of Redux.



Ms. D.SRIVALLI
ASSISTANT PROFESSOR

STUDENT ARTICLES

MICROCHIP IMPLANT

A human microchip implant is any electronic device implanted subcutaneously(subdermally) usually via an injection. Examples include an identifying integrated circuit RFID device encased in silicate glass which is implanted in the body of a human being. This type of subdermal implant usually contains a unique ID number that can be linked to information contained in an external database, such as identity document, criminal record, medical history, medications, address book, and other usage. For Microchip implants that are encapsulated in silicate glass there exists multiple methods to embed the device subcutaneous ranging from placing the microchip implant in an syringe or trocar. and piercing under the flesh (subdermal) then releasing the syringe to using a cutting tool such as a surgical scalpel to cut open subdermal and positioning the implant in the open wound



RITIKA KOLLURI
19RH1A12F4

VIDEO GAMES HELP WITH PROBLEM SOLVING

Video gaming, Some people simply don't like them or don't have time for them, and that's OK. But for those who do play video games, we'd suggest looking at it as a way to learn some new skills, advance your career, and even make money. In fact, there are a lot of reasons to play video games that have nothing to do with entertainment: They just might help solve our world's most pressing problems. Video games are often perceived as a mere pastime for kids and teenagers, who use them to unwind after school or on weekends. However, there is an increasing body of research that suggests video games can play a key role in improving global affairs—from education to disaster relief and beyond. In fact, in a growing number of cases, what is considered to be good gaming has very little to do with winning or losing at all—the act of solving problems, by itself, is what brings a lot of gamers satisfaction. With that in mind, video games may be exactly what we need as civilization attempts to tackle some of its biggest challenges



DR.AMRUTHA NAYANA
19RH1A1240

METAVVERSE

The Metaverse is the next iteration of the internet, supporting ongoing online 3D virtual environments where the world's publicly accessible virtual experiences, real-time 3D contents and other related media are connected and accessible through VR/AR, as well as through classic devices such as PC or mobile. An Immersive Web3 internet, where users meet in virtual spaces, represent themselves as avatars and share virtual objects through new technologies.

The user's own digital identity being represented as an avatar should become something universal and exploitable in various Metaverse spaces. This is a big challenge with current initiatives, which are mainly centered around proprietary, locked-in Metaverse solutions. Building a system to connect these worlds, with interoperable assets and avatars, is a key step in enabling a shared Metaverse. This will lead to the creation of a new level of reality which will be fully digital, with its own values and economy, and including an expression of ourselves, as in the real world.



G.SAHAJA YADAV
19RH1A1255

QUANTUM COMPUTING

Quantum computing is the process of using quantum mechanics for solving complex and massive operations quickly and effectively.

Data is stored in qubits where qubits can simultaneously be in both 0 and 1 states prior to outcome. Quantum computing uses two phenomenon, superposition and entanglement. Superposition refers to the ability of quantum system to present in multiple states at the same time and entanglement refers to the quantum state of each particle of group cannot be described independently of the state of others, including when the particles are separated by a large distance.

It performs calculations on the basis of the object's probability and provides highly secured data and data encryption. A quantum computer needs low temperature. But computers can't be used in public because of complex design. Improved speed and saves much time.

Companies who are developing quantum computers include Intel, Google AI, IBM, D-Wave system, Cambridge quantum computing limited, Lockheed martin cooperations, Anyon Systems inc. even some space organizations .



K.BHAVANI
19RH1A1268

Robotic Process Automation (RPA)

Robotic Process Automation (RPA) uses multiple software and applications to automate business processes such as data collection and analysis, customer service and other repetitive tasks managed previously through manual processes.

Like AI and Machine Learning, RPA is a rapidly advancing technology that automates many jobs across different industries. McKinsey has analysed that fewer than 5% of jobs today can be entirely automated, but nearly 60% can be automated at least partially.

RPA offers several new career options and trajectories such as a programmer, project manager, business analyst or consultant. It also opens doors to high-paying jobs with a moderate learning curve in leading organisations. Choosing this technology as a career move can profit you immensely



K.SAMHITHA RAO
19RH1A1273

V2V TECHNOLOGY

Vehicle-to-vehicle (V2V) communication enables vehicles to wirelessly exchange information about their speed, location, and heading. The technology behind V2V communication allows vehicles to broadcast and receive omni-directional messages (up to 10 times per second), creating a 360-degree “awareness” of other vehicles in proximity. Vehicles equipped with appropriate software (or safety applications) can use the messages from surrounding vehicles to determine potential crash threats as they develop. The technology can then employ visual, tactile, and audible alerts—or, a combination of these alerts—to warn drivers. These alerts allow drivers the ability to take action to avoid crashes.



GUDISE SWEJA
20RH1A1259

CLOUD COMPUTING WITH AWS

Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud platform, offering over 200 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster.

Used by millions, Amazon Web Services (or simply AWS) is a secure cloud services platform offering nearly everything businesses need to build sophisticated applications with flexibility, scalability, and reliability. It is a “pay-as-you-go” billing model with no upfront or capital costs. Amazon offers nearly 100 on-demand services and that list is growing daily. Implementation is nearly instantaneous, available with minimal setup.

Mastering AWS isn't just about building sites online. The service gives developers access to an interconnected suite of features offering compute power, database storage, content delivery, and a growing portfolio of related functionality. Businesses around the world are using AWS to grow and to scale. Cloud computing is here to stay and the solutions available from Amazon Web Services are accelerating its growth.

Amazon Web Services or AWS as an abbreviation is a popular Cloud Service Provider that enables on-demand services like compute, storage, networking, security, databases, etc which can be accessed through the internet across the globe and the user is not required to manage or monitor these resources.



B.AKSHITHA
20RH1A1216

WIRELESS USB

1.Introduction

Wireless USB was a short-range, high-bandwidth wireless radio communication protocol created by the Wireless USB Promoter Group which intended to increase the availability of general USB-based technologies. It is unrelated to Wi-Fi

2.History of Wireless USB

In February 2004: The Wireless USB Promoter Group was formed to develop the technical standards for wireless universal serial buses. In May 2005: The Wireless USB Promoter Group unveiled the complete wireless USB technology standard.

3.Connectivity of Wireless USB

Up to 127 wireless devices can be connected to the host. W-USB can be used as either a W-USB device or a host. In order to connect to a common wired USB device, the W-USB specification defines a device line adapter.



G.TEJASWI
20RH1A1257

DRONE TECHNOLOGY

Unmanned aircraft are known as drones. It is a small remotely operated aircraft. In the true sense, it is a robot that can fly. The Hindi meaning of drone is a male bee and it has got this name because of its flying. It flies like a bee and can hover even while remaining stationary in one place. Drones are generally used in inaccessible places, where humans cannot easily reach. The Directorate General of Civil Aviation of India has prescribed five main types of drones.

Nano Drone: It weighs up to 250 grams.

1. Micro Drone: It weighs more than 250 grams but less than 2 kg.
2. Small Drone: It weighs more than 2kg but less than 25kg.
3. Medium Drone: It weighs more than 25kg but less than 150kg.
4. Large Drone: It weighs more than 150 kg.

Applications of Drone Technology:

- In the agriculture sector, today farmers in different countries of the world are monitoring crops and spraying medicines through drones.
- Drone Technology is typically used in situations where manned flight is considered too risky or difficult.
- The strength of this composite material allows military drones to cruise at extreme altitudes and thus proves to be very beneficial in the [defence system](#) of the country.
- In the home delivery of goods, currently, companies like Google and Amazon are preparing to do home delivery of goods by drone. Amazon has also filed a patent for the deployment of drones in India.
- Drone technology is also being used in the [Swachh Bharat Abhiyan](#) to make the Swachh Bharat Abhiyan a success. Drones are being used to monitor open defecation near rivers and ponds in Telangana's Karimnagar.
- Drones are being used for relief and rescue during floods, earthquakes, etc. The pictures of the devastating earthquake that hit Nepal in April 2015 were taken by the drone.

Conclusion:

Drone technology is constantly evolving, so the drone technology of the future is currently undergoing progressive improvements. There are many benefits of using a drone. All over the world, innovators and scientific researchers are coming together to find new ways to use drones to fight COVID-19 [Pandemic](#).



G.SRUJANA
20RH1A1264

Smart Note Taker

1.Introduction

A helpful device like a smart note tracker or smartpen is used for taking easy and fast notes of everything. This note can be stored within the memory of the pen. This pen is also used to take note of conversations on the telephone & helps blind people..

Features & Benefits:

Capture of handwriting from any plain paper or other writing surface Input of continuous writing up to A4 page size Insert sketches, signatures, equations, and notes into Word ® documents E-mail sketches or handwritten notes in any language .

Accelerometer Technology:

This technology uses a device called Accelerometer which is used for measuring motion. A tiny accelerometer in a pen could be used to detect the stops and starts, arcs and loops of handwriting, and transmit this information to a small microprocessor that would make sense of it as text.

Connected Mode

Synchronizes the Mobile NoteTaker™ and a PC/Notebook via USB cable (included). You can upload, organize, move, edit or add to handwritten notes, ideas, sketches, phone numbers, or reminders.



REKHA BAITHI
20RH1A1215

QUANTUM COMPUTING TECHNOLOGY

Quantum computing is a modern way of computing that is based on the science of quantum mechanics and its unbelievable phenomena. It is a beautiful combination of physics, mathematics, computer science and information theory. It provides high computational power, less energy consumption and exponential speed over classical computers by controlling the behaviour of small physical objects i.e. microscopic particles like atoms, electrons, photons etc. Here, we present an introduction to the fundamental concepts and some ideas of quantum computing. This paper starts with the origin of traditional computing and discusses all the improvements and transformations that have been done due to their limitations until now. Then it moves on to the basic working of quantum computing and the quantum properties it follows like superposition, entanglement and interference. To understand the full potentials and challenges of a practical quantum computer that can be launched commercially, the paper covers the architecture, hardware, software, design, types and algorithms that are specifically required by the quantum computers. It uncovers the capability of quantum computers that can impact our lives in various viewpoints like cyber security, traffic optimization, medicines, artificial intelligence and many more. At last, we concluded all the importance, advantages and disadvantages of quantum computers. Small-scale quantum computers are being developed recently. This development is heading towards a great future due to their high potential capabilities and advancements in ongoing research. Before focusing on the significances of a general-purpose quantum computer and exploring the power of the new arising technology, it is better to review the origin, potentials, and limitations of the existing traditional computing. This information helps us in understanding the possible challenges in developing exotic and competitive technology. It will also give us an insight into the ongoing progress in this field.



K.RITWIKKA
20RH1A1285

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 share ability and ease of cracking. Biometric security system is security mechanism that identifies people by their physical or behavioral characteristics. It is currently most strongest and accurate physical security system.

Such systems store characteristics over a period like fingerprints, retinal recognition, voice etc. These will stored in system as templates, whenever person try to open it scans persons characteristics and try to match them with stored templates. Usually, the biometric data is encrypted and stored in device itself or in remote server. Hardware known as biometrics scanners captures physical characteristics for identity verification and authentication. The hardware's scans are compared to the saved database – and, depending on whether a match is found, access is granted or restricted. You can think of your own body as a key to unlock secure areas. Biometrics brings two major benefits: they are convenient, and they are difficult to impersonate. While such systems aren't perfect, they bring huge potential to the future of cyber security.



M.Tapasya

20RH1A12A3

Computing Power

Two processors have the same computing power if they can run the same programs (after translation into each processor's machine language) and produce the same results. Computing power has already established its place in the digital era, with almost every device and appliance being computerized. And it's here for even more as data science experts have better in the coming years. At the same time, we have 5G already; gear up for an era of 6G with more power in our hands and devices surrounding us. Even better, computing power is generating more tech jobs in the industry but would require specialized qualifications for candidates to acquire. From data science to robotics and IT management, this field will power the largest percentage of employment in every country. The more computing our devices will need, the more technicians, IT teams, relationship managers, and the customer care economy will flourish. One essential branch under this field that you can learn today is [RPA, i.e. Robotic Process Automation](#). At Simplilearn, RPA is all about computing and automation software that can train you for a high-paying role in the IT industry. Here are the top jobs you can target after RPA:

- Data Scientist
- AI Engineer
- Robotics Researcher
- AI Architect
- Robotics Designer



M.Prasanna

20RH1A12A8

PHISHING TECHNOLOGY

“The Spy Act prohibits keystroke logging, hijacking and phishing.”

-Cliff Stearns

In the field of computer security, phishing is the criminally fraudulent process of attempting to acquire sensitive information such as usernames, passwords, and credit card details, by masquerading as a trustworthy entity in an electronic attempting. Phishing is a fraudulent e-mail that attempts to get you to divulge personal data that can then be used for illegitimate purposes. Phishing is when attackers attempt to trick users into doing 'the wrong thing', such as clicking a bad link that will download malware, or direct them to a dodgy website.

Phishing can be conducted via a text message, social media, or by phone, but the term 'phishing' is used to describe attacks that arrive by email. Phishing emails can reach millions of users directly, and hide amongst the vast number of benign emails that busy users receive. Attacks can install malware (such as ransom ware), sabotage systems, or steal intellectual property and money.

Phishing emails can hit an organisation of any size and type. You might get caught up in a mass campaign (where the attacker is just looking to collect some new passwords or make some easy money), or it could be the first step in a targeted attack against your company, where the aim could be something much more specific, like the theft of sensitive data. In a targeted campaign, the attacker may use information about your employees or company to make their messages even more persuasive and realistic. This is usually referred to as spear phishing.



MP.JAHNAVI

20RH1A12B4

Li-Fi Technology

Li-Fi meaning light fidelity is a bidirectional wireless system that transmits data via LED or infrared light. It was first unveiled in 2011 and, unlike Wi-Fi, which uses radio frequency, Li-Fi technology only needs a light source with a chip to transmit an internet signal through light waves. Li-Fi technology will allow us to connect to the internet using light from sources like lamps, street lights or LED televisions. In addition to being cheaper, safer and faster than Wi-Fi, it does not need a router. All you need to do is point your mobile or tablet towards a light bulb to surf the web.

Li-Fi technology is widely used in various applications such as healthcare, education, retail, aviation, exhibition industry, and others. Healthcare is one of primary application areas in the global Li-Fi market. Hospitals have always received technology in the form of wired connections. Li-Fi technology can be used in environments where Wi-Fi is considered a hazard such as hospital because one cannot use radio frequencies where there are ECG or any other machines, which are check the configurations of a patients' health, since, the frequencies may tamper the results. It can also be widely used in military aircrafts and in domestic airplanes too.

The Li-Fi technology is now developed into a ubiquitous system technology with innovative networking capabilities for universal application to provide a variety of device platforms for high-speed internet communications. This study showed that Li-Fi technology is an appropriate alternative to Wi-Fi technology. Although Li-Fi technology does not use any radio frequencies, but it provides safer, greener and cheaper technology. This LI-Fi technology provides users with better security measures, capacity and availability as compared to Wi-Fi. The future implications of Li-Fi include its application in different fields such as industries, medicine, education and other regions requiring further exploration.



MP. Yeshswini

20RH1A12B5

DATAFICATION

Datafication is the technological trend turning many aspects of our life into data, which is subsequently transferred into information, realized as a new form of value. Datafication is simply transforming everything in our life into devices or software powered by data. In short, it is the modification of human chores and tasks into data-driven technology.

Datafication helps business to improve their products and services by using real-time data. Plus, it is an important component in collecting customer feedback about the quality of the product and services offered by any company.

IMPORTANCE & FUTURE SCOPE : At present, we are talking about building an analytical culture that spreads across all aspects of how business is conducted in the digital age. Both Artificial Intelligence and Machine Learning play an important role in Datafication but the first step begins with collecting data from various sources. To keep the collected data stored in the right and secure way, it has become an in-demand specialization in our economy. Hence, it leads to a higher need for IT professionals, data scientists, engineers, technicians, managers and so much more.



S.N.LIKHITHA
20RH1A12F3

HONEYPOT

A honeypot is a security mechanism that creates a virtual trap to lure attackers. An intentionally compromised computer system allows attackers to exploit vulnerabilities so you can study them to improve your security policies. You can apply a honeypot to any computing resource from software and networks to file servers and routers.

Honeypots are a type of deception technology that allows you to understand attacker behavior patterns. Security teams can use honeypots to investigate cybersecurity breaches to collect intel on how cybercriminals operate. They also reduce the risk of false positives, when compared to traditional cybersecurity measures, because they are unlikely to attract legitimate activity. A honeynet is a decoy network that contains one or more honeypots. It looks like a real network and contains multiple systems but is hosted on one or only a few servers, each representing one environment.



V.Keerthi
20RH1A12H4

GENOMIC TECHNOLOGY

Genomic technologies are best defined as technologies used to manipulate and analyse genomic information. The evolution of this collective power began in earnest with the invention of DNA cloning in the 1970's and most of the technology derives from the last quarter of the 20th century. The historical impact of these technologies is clearly immense. With the genome sequence becoming available for many organisms, including humans, another new view of biology has recently emerged. This review examines the shape and texture of this recent evolution, with a particular emphasis on new technology: DNA cloning, macromolecular structure analysis (X-ray crystallography and NMR), DNA sequencing, DNA synthesis, amplification by the polymerase chain reaction, and transgenic animals (bacteria through mammals). One of the most popular single nucleotide polymorphisms (SNP)-Bead Array devices previously utilised by direct-to-consumer genetic testing companies is the [Illumina](#) Omni Express chip. This product was employed by [23andMe](#), [Ancestry.com](#), [My Heritage](#), and Family Tree DNA. In 2017, 23andMe switched from using the Illumina Omni Express chip to a customised Illumina Global Screening Array (GSA) microarray. More recently, My Heritage, and Family Tree DNA also switched to using the newer GSA product. It should be noted that My Heritage DNA samples are processed in the Family Tree DNA laboratory, meaning that the two companies are linked in terms of the underlying technology. Sources indicate that Illumina intends to discontinue its Omni Express chip, in favour of the GSA product. As such, companies such as Ancestry.com who continue to use this device will be forced to switch to the GSA, purchase [Thermo Fisher Scientific](#) products, or adopt next-generation sequencing technology.



V.BHARGAVI
20RH1A12H5

CRYPTOGRAPHY

Cryptography is a method of protecting information and communications through the use of codes, so that only those for whom the information is intended can read and process it. In computer science, cryptography refers to secure information and communication techniques derived from mathematical concepts and a set of rule-based calculations called algorithms, to transform messages in ways that are hard to decipher. These deterministic algorithms are used for cryptographic key generation, digital signing, verification to protect data privacy, web browsing on the internet and confidential communications such as credit card transactions and email. Cryptography is closely related to the disciplines of [cryptology](#) and [cryptanalysis](#). It includes techniques such as microdots, merging words with images and other ways to hide information in storage or transit. However, in today's computer-centric world, cryptography is most often associated with scrambling [plaintext](#) (ordinary text, sometimes referred to as *cleartext*) into [ciphertext](#) (a process called [encryption](#)), then back again (known as decryption). Individuals who practice this field are known as cryptographers.



SHEELA SAMHITHA

20RH1A12F5

Low Code Development

In conventional software development, programmers write lines of code to create the functions and features desired in a computer program or application. This type of app development work is sometimes called point-and-click development or simply click development.

Low-code/no-code platforms stem from earlier Rapid Action Development (RAD) tools such as Excel, Lotus Notes and Microsoft Access that likewise put some development-like capabilities into the hands of business users (i.e., non-IT professionals). Currently the top areas for low-code use are business process or workflow applications, web and mobile front ends, and customer-facing applications, according to Forrester.

Additionally, organizations may find that some tasks for which citizen developers or professional development teams have used these tools were not well-suited to low-code and no-code methods or platforms, and this could represent a significant waste of resources.

Experts predict that eventually low code will expand into broader areas such as reengineering technology stacks and ecosystems. However, enterprises will continue to practice traditional development for applications that require extensive application functionality, data governance and deployment to specific architectures.



DEEKSHITHA VEMULA
21RH5A1217

SKILLS CRISIS IN TECH

Today's and tomorrow's jobs require advanced technical skill levels. Workplaces may need fewer people, but they must be better educated and able to work with advanced computer systems. This has become the new normal for employment whether it is in an office, production facility, hospital, law firm, or service business.

The demand for talent and the supply of workers with the desired skills are out of balance all over the world. India and China are moving into more sophisticated high-tech manufacturing or IT services. They both are now encountering severe shortages of engineers, scientists, and technicians with the requisite educational preparation due to their deficient public-education systems and the inadequate standards of institutions of higher learning. As for mentioned problem there are some strategies for tackling the problems of skills shortages and these must be customized to the requirements of the specific industry. So, we require a revolution for the number of spheres of life that are changing very quickly in the present contemporary world known for its rapid development.



N. Neha Sri
21RH1A12D2

INTERNET OF THINGS

Billions of connected devices are deployed with no slowdown in sight. These devices are changing our lives, the world we live in and the way we do business, creating a foundation and enabler for improved customer experiences and optimised digital business processes.

Once an object is compromised, the whole enterprise network becomes vulnerable to Trojan horses, attacks and threats. When you consider that enterprises connect thousands, if not millions of these objects, the challenge becomes clear: configuration and management of individual devices is totally unrealistic, and the security risks are enormous.

Efficient use of these devices requires technologies, such as [Notification servers](#), [IoT Hub](#) and/or [CPaaS](#) (Communications Platform as a Service), that translate received data into actions for the user. These technologies provide the intelligence that transforms IoT-collected data into action on the connected device, enabling automated workflows.

For example, a sensor in a hotel room detects that the room is too cold. The notification server and CPaaS mix assesses this information and sends a text message to a pre-defined, hotel employee. Required functions include device configuration, security, command dispatching, operational control, remote monitoring and troubleshooting. The organization will need to account for these functions, even if the cloud provider doesn't offer the required device management components.



M.VANI
21RH1A12C1

GENOMIC TECHNOLOGY

Genomic technologies are best defined as technologies used to manipulate and analyze genomic information. The evolution of this collective power began in earnest with the invention of DNA cloning in the 1970's and most of the technology derives from the last quarter of the 20th century. The historical impact of these technologies is clearly immense. With the genome sequence becoming available for many organisms, including humans, another new view of biology has recently emerged. This review examines the shape and texture of this recent evolution, with a particular emphasis on new technology: DNA cloning, macromolecular structure analysis (X-ray crystallography and NMR), DNA sequencing, DNA synthesis, amplification by the polymerase chain reaction, and transgenic animals (bacteria through mammals). [1]. The past few years have seen extraordinary developments in areas such as high-throughput sequencing, big-data analysis and storage, genome engineering, and gene therapy. It is now clear that genomic technologies will make a real impact in the clinic, and, although their full potential is still far from being met, areas where transformative applications have been made already include oncology and genetic disease diagnostics.

A particularly active area has been the development of tools for tumor DNA sequencing and analysis. It is now possible to perform high-throughput sequencing of tumor samples and identify the mutations in a patient's tumor, thus allowing a precise diagnosis and selection of the most appropriate therapy. A common problem in the accurate identification of somatic mutations (genetic changes not present in germline cells) in tumors is the absence of matched normal tissue. To counter this, Lincoln Stein and colleagues have developed ISOWN, software that uses supervised machine learning combined with external databases to identify, with high accuracy, somatic mutations in next-generation sequencing data of tumor samples in the absence of normal samples [2]. ISOWN might be useful in situations where normal tissue was not collected, the patient consent does not allow for its collection, or in retrospective studies.



NAGULA NIHARIKA
21RH1A12C9

ROBOTIC PROCESS AUTOMATION

Robotic process automation (RPA) occurs when basic tasks are automated through software or hardware systems that function across a variety of applications, just as human workers do. This can greatly reduce labor costs and increase efficiency by speeding things up and greatly minimizing human error.

The software or robot can be taught a workflow with multiple steps and applications, such as taking received forms, sending a receipt message, checking the form for completeness, filing the form in a folder, and updating a spreadsheet with the name of the form, the date filed, and so on. RPA software is designed to reduce the burden for employees of completing repetitive, simple tasks.

Robotic process automation (RPA) refers to software that can be easily programmed to do basic, repetitive tasks across applications. It creates and deploys a software robot with the ability to launch and operate other software. Designed primarily for office-type functions, RPA works like a digital assistant, doing routine onerous tasks that would otherwise eat up employees' time. Today, it is found across a range of industries and applications. Without RPA human oversight, however, can lead to problems, as was the case with mortgage "robo-signers."

Robotic process automation (RPA) is designed to help primarily with office-type functions that often require the ability to do several types of tasks in a specific order. It creates and deploys a software robot with the ability to launch and operate other software. In a sense, the basic concept is similar to traditional manufacturing automation, which focuses on taking one portion of a workflow—or even just one task—and creating a robot to specialize in doing it.

Office work often requires the same sort of repetitive effort, but since it is data being manipulated across platforms and applications, a physical robot is not necessary.



O.V.NOMIKA

21RH1A12D8

ANIMATION TECHNOLOGY

- Animation is the process of transforming still images into moving images.
- When still images are displayed rapidly on media, such as film or video, they create the illusion of motion.
- In animation's early days, artists used pencil, paint, and paper. Today, the growing use of digital tools opens up new and exciting opportunities for artists.
- Digital artists seeking to enter the global Animation Industry valued at \$264 billion as of 2019, have many career options.
- With the market for animation movies breaking all records, the fact is that people are craving a higher degree of realism and life-like visuals in animated movies.
- Some of the recent developments are,
- **VIRTUAL REALITY:** Virtual Reality is making animation, something people can feel and live in. VR involves creating a virtual world with the help of animation which the people can access by use of VR headgears or other similar equipment.
- **AUGMENTED REALITY:** AR is slightly different from VR in terms of access and experience. AR could be experienced simply on our smartphones or smart glasses.
- **ARTIFICIAL INTELLIGENCE:** Most of the tasks involved in the creation of animated films are done manually. But it is anticipated that as the application of Artificial Intelligence gains prevalence in the animation industry.



S.GEETHIKA
21RH1A12G4

QUANTUM COMPUTING

Quantum computing is a type of computation whose operations can be utilized for the phenomena of quantum mechanics, such as superposition, interference, and complication. Quantum computers are well known as the devices that present or perform quantum computations. Though current quantum computers are too small to perform usual computers for practical applications, larger realizations are believed to be capable of solving certain computational problems, such as integer factorization (which underlies RSA encryption), substantially faster than usual computers. The study of quantum computing is a subfield of quantum information science.

There are several models of quantum computation but the mainly known is quantum circuits. Other models include the quantum Turing machine, quantum annealing, and adiabatic quantum computation. Most models are based on the quantum bit, or "qubit", which is somewhat comparable to the bit in classical computation.

Much more technologies like transmons, ion traps and topological quantum computers are needed to build a physical quantum computer. Which aims to create a high-quality qubits. Depending on the full quantum computer's computing model qubits may be designed differently, as to whether quantum logic gates, quantum annealing, or adiabatic quantum computation are employed. There are currently a number of significant obstacles to constructing useful quantum computers.

A quantum computer is as capable as classical computers which can solve critical computation problems. Conversely, any problem that can be solved by a quantum computer can also be solved by a classical computer, at least in principle given enough time. In other words, quantum computers obey the Church–Turing thesis. This means that while quantum computers provide no additional advantages over classical computers in terms of computability, quantum algorithms for certain problems have significantly lower time complexities than corresponding known classical algorithms. In particular, quantum computers are believed to be able to quickly solve certain problems that no classical computer could solve in any possible amount of time—a feat known as "quantum supremacy." At present, large manufacturing data sets on operational failures can be converted to combinatorial problems using quantum computers.



A. LAKSHMI VYSHNAVI
21RH1A1203

I – TWIN

ITWIN is a limitless secure USB device that enables users to access, edit and share all their files and media between any two online computers anywhere in the world. The only limit is the size of computer's hard drive. Its also allow edit our home/office files remotely.

ITWIN was invented by an INDIAN named LUX ANATHARAMAN. He is the CEO and Co-Founder of I-TWIN. He worked first as an IT security researcher in Singapore.

I-TWIN is needed because of drawbacks in USB devices - like limited storage , no security backup, temp files, no remote editing etc. Transferring data from one PC to another can be difficult especially if it is a large amount of data. ITWIN is a best solution so far to transfer large amount of data anywhere in the world via Internet connection.

If the I-TWIN is lost we can easily disable it. If the password is forgotten we can change it easily by attaching both halves and can set a new password. There are no restrictions in terms of files size or type. Two-factors authentication provides additional security. It indicates the amount left to be transferred. In case of network interruption itwin files transfer pause.

The ITWIN-A fantastic solution for the home user who wishes to access and change their files remotely and securely. The ITWIN bypasses the virtual world of cloud services to turn our physical storage into its networking solution. The ITWIN is simple to use. For those who want to keep files up-to-date between two computers ITWIN is the best for them.



BASA NIKHITHA

21RH1A1221

3D PRINTING TECHNOLOGY

3D printing promises a revolution in fabrication, with many opportunities to produce designs that would have been prohibitively expensive. 3D printing or additive manufacturing is the construction of three-dimensional objects from a CAD model or a digital 3D model. Charles Hull is the inventor of stereolithography, the first commercial rapid prototyping technology commonly known as 3D printing. The earliest applications were in research and development labs and tool rooms, but today 3D printing applications are seemingly endless. 3D printers adopt likewise approaches for traditional inkjet printers, although in 3D. Via a mix of precision tools and advanced software, it allows three-dimensional objects to be developed from scratch.

This printing technology is also highly befitting for creating complex, bespoke items, to make it fitting when it comes to rapid prototyping. A couple of examples include consumer items (from eyewear, footwear, furniture to design), industrial items, dental items, prosthetics, architectural scale models & maquettes, reconstructing fossils.

As far as recent inventions go, the advantages of 3D printing make it one of the most promising technologies. The additive technology is one of the biggest advantages of 3D printing, it opens a whole new way in which products are created and it offers a lot of advantages compared to the traditional manufacturing methods. 3D printing discussed here are applicable to the whole industry. Through fast design, high levels of accuracy and the ability to make informed decisions, the following 3D printing advantages make this technology a real prospect for businesses but also highlight its importance in future production techniques. It is clear to see that there is a wide and varied array of 3D printing advantages. Many different industries are starting to introduce 3D printing into their processes in an attempt to benefit from using the technology in the various different ways. It is a technology that has grown considerably in recent years and it will continue to grow as it continues to fine-tune. Despite 3D printing being a relatively new technology, it has grown in popularity to the point where it is now accessible due to a reduction in costs. The number of printers that are being sold is growing at an incredible rate and what was once a niche technology to only those who could afford and use it, it is now reaching far and wide to many different industries. This ease of access has changed the manufacturing process in a way that has not been seen for decades.



CH. SHRAVANI

21RH1A1249

SERVERLESS COMPUTING

Serverless computing permits organizations to form a Snoops IT environment that's mechanized and disconnected from the fundamental foundation, lessening operational costs and permitting businesses to contribute creating modern capabilities that include more esteem, the report found.

Serverless computing is a cloud computing and execution model in which the cloud provider allocates machine resources on demand, taking care of the servers on behalf of their customers. However, developers of serverless applications are not concerned with capacity planning, configuration, management, maintenance, fault tolerance, or scaling of containers, VMs, or physical servers. Serverless computing does not hold resources in volatile memory; computing is rather done in short bursts with the results persisted to storage. When an app is not in use, there are no computing resources allocated to the app. Pricing is based on the actual amount of resources consumed by an application. It can be a form of utility computing.



CH.LIKITHA

21RH1A1250

EDGE COMPUTING

Edge computing is a distributed information technology (IT) architecture in which client data is processed at the periphery of the network, as close to the originating source as possible.

During the early part of the 21st century, cloud computing was considered the next big thing. In cloud computing, data is uploaded to a centralized repository that may access it regardless of location. Cloud computing began to be used in commercial devices only close to 2010. By the time it was 2022, cloud computing had become a prevalent technology.

The next step after cloud computing is edge computing. It is another rising new technology in 2022 which is very similar to cloud computing, except that data is not stored in a centralized repository. In areas where network access might be difficult or impossible. Edge computing does its transfer data closer to the location where it needs to be used.

Edge computing allows the data to remain at the 'edge' of the cloud and the device for processing so that commands can be followed through in a smaller amount of time.

Edge computing jobs have only begun to grow with IOT devices. As the number of these devices increases, edge computing roles are likely to become more prevalent and lucrative, placing it firmly among the trending technologies in 2021-2022



CH. NEETHIKA

21RH1A1251

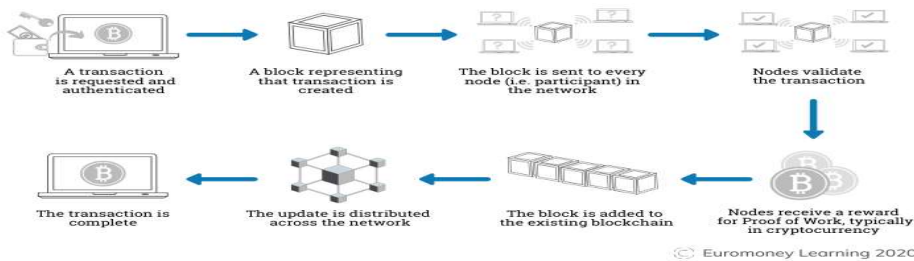
DIGITAL TRUST --- THE BLOCK CHAIN HI-TECH..!!

A blockchain is a distributed database or ledger that is shared among the nodes of a computer network. As a database, a blockchain stores information electronically in digital format. Blockchains are best known for their crucial role in cryptocurrency systems, such as Bitcoin, for maintaining a secure and decentralized record of transactions. The innovation with a blockchain is that it guarantees the fidelity and security of a record of data and generates trust without the need for a trusted third party.

The goal of blockchain is to allow digital information to be recorded and distributed, but not edited. In this way, a blockchain is the foundation for immutable ledgers, or records of transactions that cannot be altered, deleted, or destroyed. This is why blockchains are also known as a [distributed ledger technology](#) (DLT).

First proposed as a research project in 1991, the blockchain concept predated its first widespread application in use: Bitcoin, in 2009. In the years since, the use of blockchains has exploded via the creation of various [cryptocurrencies](#), [decentralized finance](#) (DeFi) applications, [non-fungible tokens](#) (NFTs), and [smart contracts](#)

How does a transaction get into the blockchain?



Block chain technology , crypto currencies, and smart contracts are truly a new kind of thing. ..technically ...conceptually...socially... structurally.. with tremendous potential to decentralize and transform the manner in which we conduct all activity... to realize futures that are more efficient and participative , scalable at a planetary level and enhancing of core values such as liberty , equality and innovation..



GOLLA SINDHU

21RH1A1273

BLUE EYE TECHNOLOGY

Have you guys just imagined the world where the computer tells you to calm down when you are angry, motivates you when you are frustrated, and provides all the help and pleasure? They are the actual best friends that do to you. This is actually possible by a technology called blue eyes technology. The word blue in the blue eye technology stands for Bluetooth which facilitates wireless communication and eye stands for the eye movement which allows us to obtain a lot of interesting and necessary information. The basic thought behind this technology is to give the computer the human potential

The hardware part comprises of the data acquisition unit and central system unit technologies are used in the blue eye technologies which are: emotion mouse manual and gas input cascaded which is commonly known as magical intelligence speech recognition (ASIR) simple user interest tracker (SUITOR) the eye movement sensor.

. The advantages are such that it provides a monitoring condition for physiological and it also reduces the works of human and increases efficiency. The future a blue eye technology is that it can be used in ordinary household devices also like in televisions refrigerators and ovens and may be able to do their jobs when we look at them and speak to them. it also provides some more delicate and user friendly facilities in computing devices. it provides gap between the electronic and the physical world will be reduced. The computers can be also run using implicit commands instead of the explicit commands.



J.SHIRISHA

21RH1A1279

COMPUTER SECURITY

computer security, also called **cybersecurity**, the protection of [computer](#) system and information from harm, theft, and unauthorized use. Computer hardware is typically protected by the same means used to protect other valuable or sensitive equipment—namely, serial numbers, doors and locks, and alarms. The protection of information and system access, on the other hand, is achieved through other tactics, some of them quite complex. The security precautions related to computer information and access address four major threats: (1) theft of [data](#), such as that of military secrets from government computers; (2) vandalism, including the destruction of data by a computer virus; (3) fraud, such as employees at a [bank](#) channeling funds into their own accounts; and (4) invasion of privacy, such as the illegal accessing of protected personal financial or medical data from a large database. The most basic means of protecting a [computer system](#) against theft, vandalism, invasion of privacy, and other irresponsible behaviours is to electronically track and record the access to, and activities of, the various users of a computer system. This is commonly [done](#) by assigning an individual [password](#) to each person who has access to a system. The computer system itself can then automatically track the use of these passwords, recording such data as which files were accessed under particular passwords and so on.



K. VARSHA
21RH1A1291

IMPORTANT WEBSITES

www.ieee.org/india

www.engineering.careers360

www.technologyreview.com

www.mathworks.in/products/matlab/

www.microwaves101.com/

www.ece.utoronto.ca/student-life-links

<https://www.ece.org/>

[Science Commons.org](http://ScienceCommons.org)

[MathGV.com:](http://MathGV.com)

<http://www.engineeringchallenges.org/>

<http://engineering.stanford.edu/announcement/stanford-announces-16-online-courses-fall-quart>

<http://www.tryengineering.org/>

<http://www.engineergirl.org/>

<http://www.discoverengineering.org/>

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

<http://efymag.com>

<http://efymagonline.com/>

<http://electronicsforu.com>

www.dspguide.com

www.howstuffworks.com

<http://nptel.iitm.ac.in>

<http://www.opencircuitdesign.com/>

<http://www.futuresinengineering.com/>

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