TECHNICAL MAGAZINE

2022-2023

DEPARTMENT OF COMPUTER ENGINEERING

PMC TECH
INSPIRE TO INNOVATE

ER PERUMAL MANIMEKALAI POLYTECHNIC COLLEGE

Koneripalli, Hosur – 635117

AN ISO 9001:2015 CERTIFIED INSTITUTION, AFFILIATED TO TNDOTE

ACCREDIATED BY NBA

https://www.pmctechpoly.org

DEPARTMENT OF COMPUTER ENGINEERING

VISION OF THE INSTITUTE

PMC Tech Polytechnic College shall emerge as a premier Institute for valued added technicaleducation coupled with Innovation, Incubation, Ethics and Professional values

Mission of the Institution

1. To foster the professional competence through excellence in teaching and learning.

2. To nurture overall development of students by providing Quality Education & Training.

3. To provide innovative environment to learn, innovate and create new ideas for the betterment ofoneself and society

VISION OF THE DEPARTMENT

To develop competent and skilled diploma holders in computer engineering to meet the needs of industrial and society.

Mission of the Department

1. To **produce** successful diploma holders in computer engineering through state of art teaching and learning

2. To **develop** skilled computer engineering professionals through innovative and creative hands on experience.

3. To **inculcate** the habit of professionalism, ethics and innovation.

Programme Educational Objectives (PEO's)

PEO 1: **Pursue** higher education, project and development in computer engineering and entrepreneurship.

PEO 2 : **To develop** professional development and lifelong learning throughout the career. To demonstrate creativity in their practice including entrepreneurial and collaborative ventures with strategies of thinking and innovative learning.

PEO 3 : **Develop** a problem solving, ability among students through computer techniques.

PEO 4 : **Demonstrate** effective team work skills in their profession through seminars and group discussion.

PEO 5 : **Encourage** students to depict their practical skills and various activities.

Programme Specific Outcomes (PSO's)

PSO 1: Students are able to apply domain knowledge expertise for enhancing project capability to transform innovative ideas.

PSO 2: Ability to understand analysis and develop a computer programs in the area related to algorithm multimedia, web designing and hardware surviving for efficient design of computer based system.

PSO 3: Prepare to work professionally in software industries, and for solving real world problems

PROGRAMME OUTCOMES

PO1: Basic and Discipline specific knowledge: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

PO2: Problem analysis: Identify and analyse well-defined engineering problems using codified standardmethods.

PO3: Design/ development of solutions: Design solutions for well-defined technical problems and assistwith the design of systems components or processes to meet specified needs.

PO4: Engineering Tools, Experimentation and Testing: Apply modern engineering tools andappropriate technique to conduct standard tests and measurements.

PO5: Engineering practices for society, sustainability and environment: Apply appropriate technology in context of society, sustainability, environment and ethical practices.

PO6: Project Management: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

PO7: Life-long learning: Ability to analyse individual needs and engage in updating in the context oftechnological changes.

FOUNDER'S MESSAGE

**Er.P.Perumal ,
Founder
PMC TECH Group of
Institutions**

"Any place that anyone can learn something useful from someone with experience is an Educational Institution"

Time has now come to realize your dream to be in the main stream of your professional career and must be a great feeling to be a part of most prestigious one. PMC TECH has a history of more than 15 years. In recent years degree in the technical education like Engineering, has become the foremost academic qualification for all leading Industries, Government and Non-Government sectors. Academicians and Industrialists alike have recognized the value of the degree in the developing challenges of the rapidly changing technical environment. One of the strength of our campus is the diversity of programs and members background and experience. The range of functional, professional and vocational skills and knowledge that participants bring to the program allow the lecturing faculty to test the validity of theoretical concept against of rich background of personal and organizational outlooks. The Campus environment and work culture will encourage individuals from all walks of life and from all special and economic backgrounds. To be Engineers and other technical – based professionals, can all benefit from the experience at this beautiful campus.

CHAIRMAN'S MESSAGE

**Shri P.Kumar
Chairman**

"The object of education is to prepare the young to educate themselves throughout their lives"

True Education indeed paves the path for the children to learn new things in a correct manner. It heals them, broadens their perspectives and enriches their knowledge to face the globally competitive era. PMC TECH-Polytechnic started in 1996 with an objective to provide quality education and excellence in ever changing field of technical education. Technology is moving at a very fast pace. What was breakthrough yesterday is obsolete today. This has made it imperative that future technocrats must be familiar not only with technical skill but also with the technology of tomorrow. The maximum "survival of fittest" is more relevant now than ever before. We believe in value based quality education and faculty Members at PMC TECH – Polytechnic are striving hard for it, so that product of our Polytechnic college is well received by the industry, public and private sector organization and others. I hope young Diploma engineers passing from the institute will create difference in Indian and Global scenario.

SECRETARY'S MESSAGE

**Smt. P. MALLAR
Secretary**

"Education is a progressive discovery of our own ignorance"

At PMC TECH, we value every individual and it is our aim to provide the best possible environment where students can succeed. Our campus has grown from its inception in 2002 to accommodate almost 3000 pupils in first-class teaching facilities which are amidst beautifully kept grounds. We are fortunate to have a talented, highly committed teaching and supporting staff here to ensure the learning environment of our students is the best it can be. We seek to prepare our young men and women with the very best preparation for life after PMC TECH. Our departing Collegians should be well rounded individuals who are grounded in the Anglican way of faith, hope and

love. We seek to instill in our students a passion for learning which brings knowledge and makes them to understand that they need to make a positive contribution to the community where they live and work. The likelihood of achieving this is strengthened by the fact that we offer an academic program that includes indepth,rigorous coaching and which can be tailored to individual needs. We encourage high academic standards and have high expectations of personal discipline and motivation from our students.

Director Message

Mr.P.Sudhakaran
Director

Er.Peurmal Manimekalai Polytechnic College is an institution that aims at the complete development of the student and our staff are a hand picked and trained to ensure that the students are given every possible support in all their Endeavour's academic or otherwise it is a multi disciplinary institution and this also ensures that the students have ready access to a wide range of academic material.

Our brand of education does not have narrow horizons, we believe in exposure. Our students are encouraged to widen their knowledge base and study beyond the confines of the syllabus.

Principal Message

Prof N.Balasubramaniam
Principal

Er.Perumal Manimekalai Polytechnic College is continuously strive to impart Quality Education along with high ethical and Moral values which enable us, not only to mould our students as successful Diploma Engineers but also as disciplined citizens of our Nation. Also, we continuously upgrade and maintain world class infrastructure keeping in pace with the rapid technological developments.

We are committed to innovation and continuous improvement. We seek to work closely in partnership with the students and their parents to maximize student performance and success regardless of their ability levels.

HOD's Message

Mr.P.R.Rajasekaran
HOD

Computer Engineering is also known as software engineering is a discipline that integrates several fields of electrical engineering and computer science required to develop computer hardware and software.It provides the knowledge and skills necessary to advance and develop new paradigms for the design,integration, testing ,evolution and deployment of state of the art hardware and software systems that including computing ,communications networking, signal processing and actuation. Computer engineers are concerned with analysing and solving computer- oriented problems.

CREATIVE DESK

1
- Mr.P.R.RAJASEKARAN.,M.E, HOD
  REVIEWER

2
- Mrs.M.MANIMEKALAI., M.E., LECTURER
  CONVENOR

3
- Mrs.R.RAMYA RAJESHWARI.,B.Tech, LECTURER
  EDITOR INCHARGE

4
- Mrs.A.KOWSALYA.B.E, LECTURER
- Mrs.A.NANCY MARY , B.E , LECTURER
- Mrs.S.DEEPA, B.E, LECTURER
  EDITOR MEMBERS

5
- Selvan. C.MANOJ , III YEAR
  STUDENT MEMBER

6
- Selvan. S.MANJUNATH, II YEAR
  STUDENT MEMBER

INDEX

THE TRENDING DEVELOPMENTS IN ARTIFICIAL INTELLIGENCE (AI)

By Mr.P.R.RAJASEKARAN, M.E., / HOD

An overview of the trending developments in artificial intelligence (AI) encompassing various domains:

1. Natural Language Processing (NLP):

Transformers Architecture: Models like GPT (Generative Pre-trained Transformer) have revolutionized NLP tasks with their ability to understand and generate human-like text.Multilingual NLP: AI systems are becoming proficient in understanding and generating text in multiple languages, fostering global communication and accessibility.Contextual Understanding: AI systems are increasingly adept at understanding context, enabling them to provide more accurate and relevant responses in conversational settings.

2. Computer Vision:Advanced Object Detection:

AI algorithms can now detect and classify objects in images and videos with unprecedented accuracy, fueling applications in autonomous vehicles, surveillance, and medical imaging.Image Generation: Generative adversarial networks (GANs) and other techniques are enabling AI systems to generate highly realistic images, opening up new avenues in content creation and design.

3. Reinforcement Learning (RL):Autonomous Systems:

RL algorithms are powering autonomous agents that can learn and adapt to complex environments, leading to advancements in robotics, gaming, and resource management.Continuous Learning: AI systems are increasingly capable of continuous learning, where they can adapt to new data and situations over time, reducing the need for manual intervention and retraining.

4. Healthcare:Personalized Medicine:

AI is revolutionizing healthcare by analyzing vast amounts of patient data to provide personalized treatment plans and diagnoses, improving patient outcomes and reducing healthcare costs.Medical Imaging Analysis: AI algorithms can analyze medical images such as X-rays, MRIs, and CT scans with high accuracy, aiding radiologists in diagnosis and treatment planning.

5. Autonomous Vehicles: Safety and Efficiency:

AI-powered autonomous vehicles are becoming safer and more efficient, with advancements in perception, decision-making, and control systems.Urban Mobility: AI is driving innovations in urban mobility, including ride-sharing services, delivery drones, and public transportation systems, reshaping the future of transportation.

6. Ethical and Societal Implications:Bias and Fairness:

Addressing bias and ensuring fairness in AI algorithms is gaining prominence, with efforts to mitigate algorithmic biases and promote equitable outcomes.Privacy and Security: As AI systems collect and analyze vast amounts of data, ensuring privacy and cybersecurity is critical to maintaining trust and protecting user rights.

7. Climate Change and Sustainability:

Environmental Monitoring: AI is being used to analyze satellite imagery and sensor data to monitor environmental changes, track deforestation, and assess climate-related risks.Energy Efficiency: AI algorithms are optimizing energy consumption in various sectors, from transportation and manufacturing to building management, contributing to sustainability efforts.

8. Quantum Computing and AI:

Quantum Machine Learning: Research at the intersection of quantum computing and AI is exploring new algorithms and models that leverage quantum properties to solve complex problems more efficiently.Accelerated Computing: Quantum-inspired computing architectures and hardware accelerators are enhancing the performance of AI algorithms, paving the way for faster and more scalable AI systems.

WHAT IS ARTIFICIAL INTELLIGENCE?

Machine Learning

Using sample data to train computer programs to recognize patterns based on algorithms.

Neural Networks

Computer systems designed to imitate the neurons in a brain.

Natural Language Processing

The ability to understand speech, as well as understand and analyze documents.

Robotics

Machines that can assist people without actual human involvement.

Conclusion :

Emphasizing human-centric AI design principles is essential to ensure that AI technologies align with human values, preferences, and needs, fostering trust and acceptance.In conclusion, artificial intelligence continues to advance rapidly across diverse domains, with transformative implications for society, economy, and the environment. As AI technologies become more pervasive, addressing ethical, societal, and regulatory challenges will be paramount to realizing the full potential of AI for the benefit of humanity.

INTRODUCTION TO MACHINE LEARNING

By Mrs.M.MANIMEKALAI , M.E / Lecturer

Introduction:

Machine learning is a subset of artificial intelligence (AI) that focuses on developing algorithms and statistical models that enable computers to perform tasks without explicit programming. The primary goal of machine learning is to enable computers to learn from data and make predictions or decisions based on that data.Types of Machine LearningMachine learning can be broadly categorized into three types: supervised learning, unsupervised learning, and reinforcement learning.

Concepts in Machine Learning Feature: A feature is an individual measurable property or characteristic of a phenomenon being observed. In machine learning, features are used to represent input data, and the quality and relevance of features can significantly impact the performance of a model.

Model: A model is a mathematical representation of a real-world process or system. In machine learning, a model learns patterns from data and makes predictions or decisions based on those patterns. Models can range from simple linear equations to complex neural networks.Training

Data: Training data is the labeled or unlabeled data used to train a machine learning model. The quality and quantity of training data are crucial factors that influence the performance of a model.

Validation Data: Validation data is a separate dataset used to evaluate the performance of a trained machine learning model. It helps assess how well the model generalizes to new, unseen data and can be used to fine-tune model hyper parameters.
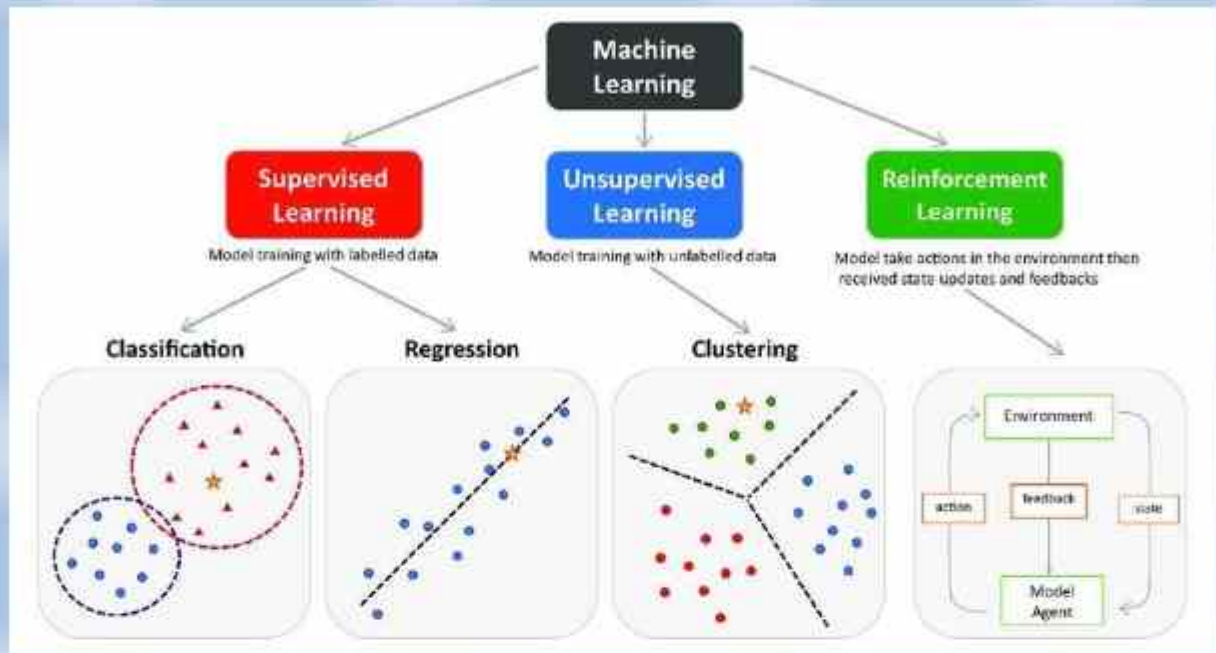
Algorithm:

An algorithm is a step-by-step procedure or set of rules used to solve a particular problem. In machine learning, algorithms are used to train models by adjusting model parameters to minimize the difference between predicted and actual outcomes.

Loss Function: A loss function is a measure of how well a machine learning model performs on a given dataset. It quantifies the difference between the predicted outputs of the model and the actual outputs in the training data. The goal of training a model is to minimize the loss function.

Hyperparameters: Hyperparameters are configuration settings that are set before the training process begins. They control aspects of the learning process, such as the complexity of the model, the learning rate, and the regularization strength. Tuning hyperparameters is an essential step in optimizing the performance of a machine learning model.Machine Learning

AlgorithmsThere are numerous machine learning algorithms, each suited to different types of tasks and data.

Neighbors (KNN): K-nearest neighbors is a simple yet effective supervised learning algorithm used for classification and regression tasks. It makes predictions by averaging the labels of the k nearest data points in the training set.

K-Means Clustering: K-means clustering is an unsupervised learning algorithm used for clustering tasks. Machine learning is used for customer segmentation, churn prediction, sentiment analysis, and targeted advertising.

Natural Language Processing (NLP): Machine learning is used for text classification, sentiment analysis, language translation, and chatbots.

Computer Vision: Machine learning is used for object detection, image classification, facial recognition, autonomous vehicles, and medical image analysis.Ethical Considerations in Machine Learning Bias and Fairness.

Conclusion:

The way in which deep learning and machine learning differ is in how each algorithm learns. "Deep" machine learning can use labeled datasets, also known as supervised learning, to inform its algorithm, but it doesn't necessarily require a labeled dataset. The deep learning process can ingest unstructured data in its raw form (e.g., text or images), and it can automatically determine the set of features which distinguish different categories of data from one another. This eliminates some of the human intervention required and enables the use of large amounts of data.

LIFI TECHNOLOGY

By Mrs. RAMYA RAJESHWARI R, B.Tech/Lecturer

Introduction:

LiFi Technology Light Fidelity (LiFi) is a revolutionary wireless communication technology that uses light to transmit data. It is a form of visible light communication (VLC) that utilizes light-emitting diodes (LEDs) to transmit data wirelessly. LiFi offers several advantages over traditional radio frequency (RF) communication technologies, including higher data transfer rates, increased security, and immunity to electromagnetic interference. Since its inception, LiFi technology has undergone significant advancements, making it a promising solution for various applications ranging from indoor wireless communication to underwater data transmissionThese LEDs are modulated at high speeds to encode data in the form of light pulses.

Photodetector: A photodetector, such as a photodiode or a photoreceptor, is used to receive the modulated light signals and convert them back into electrical signals.

Signal Processing Unit: A signal processing unit is responsible for demodulating the received light signals, extracting the transmitted data, and performing error correction and data processing tasks.The working principle of LiFi technology involves the following steps:Modulation: The intensity of the LED light is modulated at high speeds to encode digital data. Various modulation techniques, such as on-off keying (OOK) and pulse amplitude modulation (PAM), can be used to achieve high data transfer rates.

Transmission: The modulated light signals are transmitted through the air and received by photodetectors placed within the line of sight of the LED light source.Reception: The photodetectors detect the modulated light signals and convert them into electrical signals.

Demodulation: The received electrical signals are demodulated to extract the transmitted data.Data Processing: The extracted data is processed, and error correction techniques are applied to ensure the accuracy and reliability of the transmitted data.

Advancements in LiFi Technology: These high data transfer rates make LiFi suitable for bandwidth-intensive applications such as high-definition video streaming, virtual reality (VR), and augmented reality (AR).Extended Range: Initially, LiFi technology was limited to short-range communication within the line of sight of the LED light source. However, recent advancements have extended the range of LiFi communication through the use of advanced signal processing algorithms, optical amplification techniques, and multi-hop communication schemes.

These advancements enable LiFi to be used for indoor communication in large spaces such as office buildings, airports, and shopping malls.Integration with Existing Infrastructure: Another significant advancement in LiFi technology is its integration with existing lighting infrastructure.

Applications of LiFi Technology:

The advancements in LiFi technology have paved the way for its adoption in various applications across different sectors. Some of the key applications of LiFi technology include:

Indoor Wireless Communication: LiFi technology is widely used for indoor wireless communication in environments where RF communication technologies face challenges such as electromagnetic interference, security concerns, and limited bandwidth.

It is deployed in offices, hospitals, schools, and residential buildings to provide high-speed internet access, video streaming, voice communication, and IoT connectivity.

Smart Lighting Systems: LiFi technology is integrated into smart lighting systems to provide dual functionality of illumination and wireless communication. IoT Connectivity: LiFi technology plays a crucial role in enabling connectivity for IoT devices in smart homes, smart cities, and industrial IoT

Conclusion:

By deployment of this technology, we can migrate to greener, cleaner, safer communication networks. The very concept of Li-Fi promises to solve issues such as, shortage of radio-frequency bandwidth and eliminates the disadvantages of Radio communication technologies. Li-Fi is the upcoming and growing technology acting as catalyst for various other developing and new inventions/technologies. Therefore, there is certainty of development of future applications of the Li-Fi which can be extended to different platforms and various walks of human life.

CAREER OPPORTUNITIES IN COMPUTER ENGINEERING

By Mrs.A.KOWSALYA , B.E /Lecturer

1.Software Developer/Engineer: Software developers/engineers design, develop, and maintain software applications and systems. They work on various platforms and programming languages to create software solutions for businesses, organizations, and individuals. Opportunities exist in web development, mobile app development, desktop application development, and more.

2.Systems Administrator: Systems administrators are responsible for managing and maintaining the IT infrastructure of an organization. They install, configure, and troubleshoot hardware, software, networks, and servers to ensure smooth operations. Systems administrators also handle tasks such as data backup, security management, and user support.

3.Network Engineer: Network engineers design, implement, and manage computer networks for organizations. They are responsible for configuring routers, switches, firewalls, and other network devices to ensure efficient and secure communication. Network engineers also troubleshoot network issues, optimize network performance, and implement network security measures.

4. Database Administrator: Database administrators (DBAs) manage and maintain databases that store and organize an organization's data. They are responsible for designing database structures, configuring database servers, optimizing database performance, and ensuring data integrity and security. DBAs also handle tasks such as data backup and recovery, database tuning, and capacity planning.

5.Quality Assurance Engineer/Test Engineer: Quality assurance engineers/test engineers are responsible for testing software applications and systems to ensure they meet quality standards and functional requirements. They design test plans, execute test cases, report defects, and verify bug fixes. Quality assurance engineers/test engineers also automate testing processes using tools and scripts.

6.Embedded Systems Engineer: Embedded systems engineers design and develop embedded systems, which are specialized computing devices designed to perform specific tasks or functions. They work on hardware-software integration, firmware development, device drivers, and real-time operating systems. Embedded systems engineers are in demand in industries such as automotive, aerospace, consumer electronics, and medical devices.

7.IT Support Technician: IT support technicians provide technical assistance and support to end-users within an organization. They troubleshoot hardware and software issues, install and configure computer systems and software, and provide training and guidance to users. IT support technicians also handle tasks such as user account management, software updates, and system maintenance.

8.Cybersecurity Analyst: Cybersecurity analysts are responsible for protecting an organization's computer systems and networks from cyber threats such as malware, viruses, hackers, and data breaches. They monitor security events, analyze security logs, conduct vulnerability assessments, and implement security controls and measures. Cybersecurity analysts also develop incident response plans and provide security awareness training to employees.

9.IT Project Coordinator/Assistant: IT project coordinators/assistants assist in the planning, coordination, and execution of IT projects within an organization. They work closely with project managers and team members to ensure project tasks are completed on time and within budget. IT project coordinators/assistants also track project progress, maintain project documentation, and communicate with stakeholders.

10.Technical Sales Engineer: Technical sales engineers combine technical expertise with sales skills to sell complex technical products and solutions to customers. They understand customer requirements, propose suitable products or solutions, prepare technical proposals and presentations, and negotiate pricing and contracts. Technical sales engineers also provide pre-sales and post-sales support to customers and collaborate with product development teams.

## RECENT TRENDS IN COMPUTER ENGINEERING
C.MANOJ , III YEAR
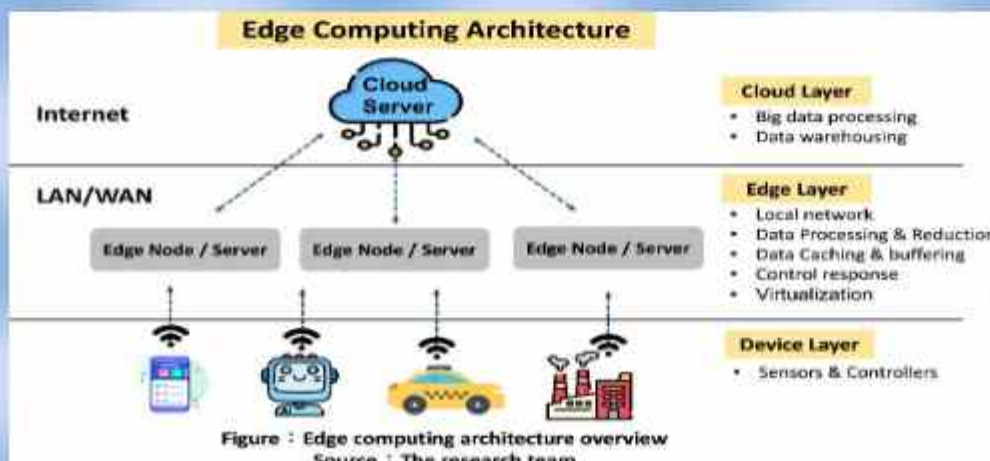
Here are some recent trends in computer engineering:

Artificial Intelligence (AI) and Machine Learning: AI and machine learning have seen significant advancements in recent years. Computer engineers are leveraging these technologies to develop intelligent systems that can learn from data, make decisions, and perform tasks traditionally requiring human intelligence. Applications of AI and

machine learning include natural language processing, computer vision, autonomous vehicles, predictive analytics, and personalized recommendation systems.
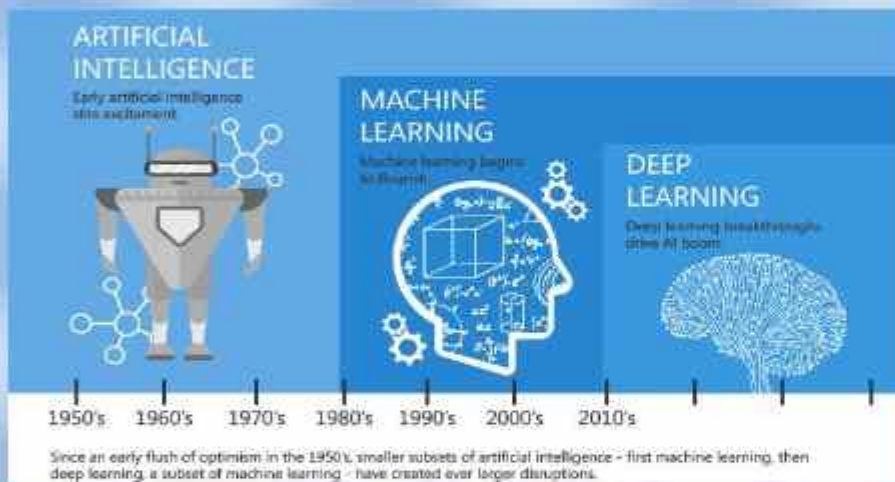
Edge Computing: Edge computing involves processing data closer to the source of generation rather than in centralized data centers. This trend has gained traction with the proliferation of Internet of Things (IoT) devices and the need for real-time data processing and analysis. Computer

Figure : Edge computing architecture overview
Source : The research team

engineers are developing edge computing solutions to enable faster response times, reduce network latency, and enhance privacy and security.5G Technology: The rollout of 5G technology promises faster data speeds, lower latency, and increased network capacity compared to previous generations of wireless technology. Computer engineers are working on 5G infrastructure, protocols, and applications to leverage the capabilities of 5G networks. This includes developing applications for augmented reality (AR), virtual reality (VR), Internet of Things (IoT), and smart cities.

Cybersecurity: With the growing number of cyber threats and attacks, cybersecurity has become a top priority for organizations and individuals alike. Computer engineers are developing innovative cybersecurity solutions to protect against malware, ransomware, phishing attacks, data breaches, and other cyber threats. This includes developing intrusion detection systems, encryption algorithms, biometric authentication methods, and security protocols.

STUDENTS PROJECT

TITLE : BLOCK CHAIN BASED PUBLIC INTEGRITY VERIFICATION FOR CLOUD STORAGE AGAINST PROCRASTINATING AUDITORS

SYNOPSIS:

INTRODUCTION:

The deployment of cloud storage services has significant benefits in managing data for users. However, it also causes many security concerns, and one of them is data integrity. Public verification techniques can enable a user to employ a third-party auditor to verify the data integrity on behalf of her/him, whereas existing public verification schemes are vulnerable to procrastinating auditors who may not perform verifications on time.

Furthermore, most of public verification schemes are constructed on the public key infrastructure (PKI), and thereby suffer from certificate management problem. In this paper, we propose the first certificate less public verification scheme against procrastinating auditors (CPVPA) by using block chain technology.

The key idea is to require auditors to record each verification result into a block chain as a transaction. Since transactions on the block chain are time-sensitive, the verification can be time-stamped after the corresponding transaction is recorded into the block chain, which enables users to check whether auditors perform the verifications at the prescribed time. Moreover, CPVPA is built on certificate less cryptography, and is free from the certificate management problem. We present rigorous security proofs to demonstrate the security of CPVPA, and conduct a comprehensive performance evaluation to show that CPVPA is efficient.

TITLE : FLIGHT BOOKING PORTAL

Synopsis:

If travelers had to make / cancel reservation he had to visit either the airline or travel agent frequently to do so thus wasting time and money for all. In the existing system due to non-availability of a central server the airline and the agents suffered unwanted delays in bookings and payments. In the existing system integration of different airlines on a single platform was not met. With the advent of

the online reservation system these flaws can be overcome. The new online reservation system maintains the data base centrally giving the clients the information required from anywhere in the world whenever required. This system requires the use of an API (Application Programming Interface) through which it extracts the data from a central database. The central database monitors all the data changes that are made at the client side to it and updates it automatically. Through online reservation system passenger sable to book& purchase the ticket from his home/office conveniently it doesn't require the passenger to go to the airline or an agent to purchase a ticket thus saving time & money for the customer and an airline/agent.

TITLE : GRAPHICAL PASSWORD AUTHENTICATION SYSTEM USING

Synopsis:

In this modern age of increasing interconnectivity, information security has come to occupy a pivotal position in recent research works. Traditional methods of authentication have been text-based password schemes. However, the major drawback with them, has been the fact that their strength varies inversely with user convenience. Users generally tend to select passwords that are easier to recall and shorter in length. This, gives rise to password cracking attempts. A graphical password is a confirmation framework that works by having the client selected pictures, in a particular order. Graphical passwords authentication system has inherent advantages over conventional textual password schemes. In this system there are 3 authentication levels after registering the basicinformation, User login's and after implementing id password system ask to authenticate in 3different levels.

A password authentication system should encourage strong passwords while maintaining memo ability. We propose that authentication schemes allow user choice while influencing users toward stronger passwords. In our system, the task of selecting weak passwords (which are easy for attackers to predict) is more tedious, discouraging users from making such choices. In effect, this approach makes choosing a more secure password the path of least resistance. Rather than increasing the burden on users, it is easier to follow the system's suggestions for a secure password—a feature lacking in most schemes.In future it has great scope. It can be used every where instead of text based password .We can increase the security of this system by increasing the number of levels used, the number of tolerance squares used.

DID YOU KNOW ???

1. The Firefox logo isn't a fox

It's actually a red panda. It's a common misbelief that the Firefox logo is a fox (I mean… it *is* in the name), but it is actually a red panda!

2. Nintendo made playing cards

long before they made video games. Nintendo was founded in 1889 as a playing card company. They didn't make their first video game until 1978.

3. As of 2017, 2.1 millions people still use dial up.

A study done in 2017 found that 2.1 million people still use a dial up service. These customers are situated mainly in rural America where internet is unreliable and expensive.

4. There are approx. 3.5 billion Google Searches per day.

7.2 percent of this traffic comes from people searching the term 'Google'.

5. Google's First Tweet was in binary.

Google's first tweet was in 2009, and it was gibberish to most. Translated from binary to English, it reads, "I'm feeling lucky".

6. Motorola produced the first handheld mobile phone

and their first phone call was to their rival. On April 3, 1973, Martin Cooper, a Motorola researcher and executive, made the first mobile telephone call from handheld subscriber equipment, placing a call to Dr. Joel S. Engel of Bell Labs (AT&T), his rival.

7. Apple were originally designing an apple shaped flip phone

before the first iPhone. Before the original design for an iPhone, Apple patented a phone design in the shape of an actual apple. It was a flip phone that, when closed, would look like the Apple logo.

8. Over 90% if the world's currency is digital.

Between credit cards, debit cards, online purchases, and cryptocurrency, only 8% of global currency is physical money.

9. Every iPhone advertisement has the time set to 9:41.

Every advertisement for an Apple iPhone, the time will be set as 9:41. This is the time that Steve Jobs announced the very first iPhone in 2007.

Crossword Puzzle #2
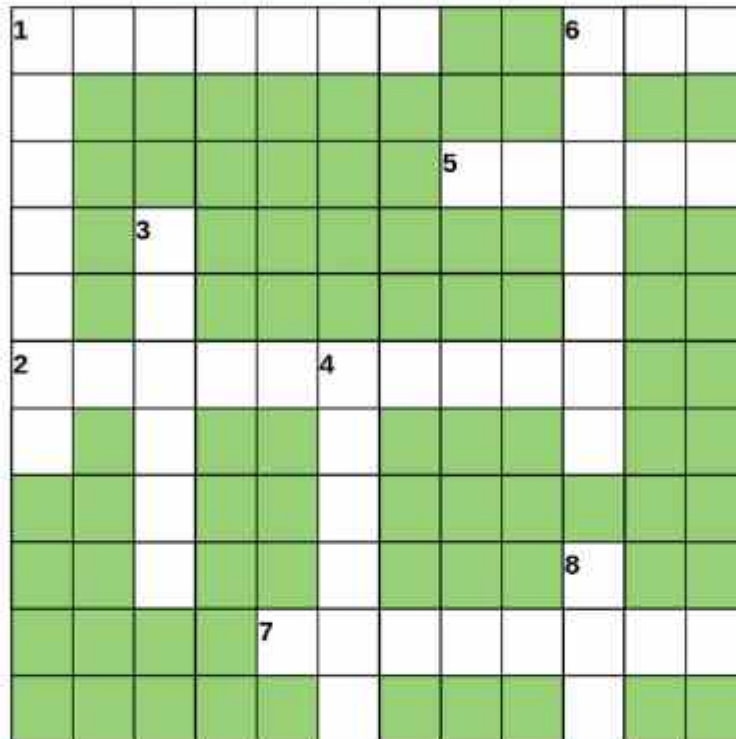
HINTS:

ACROSS:

1. The............number system consists of at most10 digits.
2. In Symmetric Key Cryptography, same key can be used by the sender and receiver for .... of the message.
5memory is the fastest system memory.
6are unexpected problem with software or hardware.
7. An operating system is a system..............that acts as an intermediary between computer user and computer hardware.

DOWN :

1. .... are complete piece of physical hardware that is used to compute or support computer.
3............images are graphical representations of mathematical objects such as lines, curves, polygons
4. Indentation is a special type of error in........... programming language.
6. The...............refers to parts of a computer application or a program's code that allow it to operate
and that cannot be accessed by a user.
8............is the computer network that connects computer/devices within the range of an individual person.

PROGRAM SEARCH

The following 7 line Python program solves the ancient Towers of Hanoi puzzle. To solve the puzzle you must come up with a series of steps to move a stack of different sized rings from one pole to another. They must be moved one at a time, using only a single intermediate pole, so thatno ring is ever placed on top of a smaller ring.
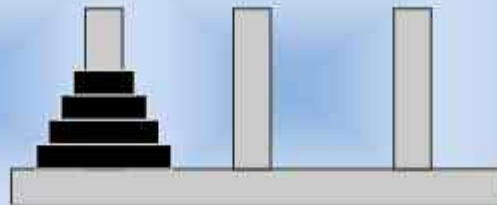

```
def thanoi (pieces, movefrom, moveto, other):if
    pieces == 1:
        print ("move ring from", movefrom, "---", moveto)else:

        thanoi (pieces---1, movefrom, other, moveto)thanoi
        (1, movefrom, moveto, other) thanoi (pieces---
        1, other, moveto, movefrom)
```

We have hidden the program in the following word search grid vertically and horizontally. Punctuation is included at the start or end of words. Spaces separate words. Repeated wordsappear multiple times. Can you find the whole program.

```
i f o t h e r ( : 1 == ) v e f m
p r = t n i r p i n = : o ) h r o
i o t h a n o i " - " , t m a o v
e n h a ( p i e c e s , e o n - e
c " a n ( " o c r i n ) v r , 1 t
e , n o m o t e l s e : o f m m o
s v o i m d m s g n i r m e o o )
( p i e c e s - 1 , o v o v r v o
d e m t h f p 1 , " t p v o f e :
e v o m " ( 1 , d t h a e m e f )
m o v e f r o m , f e f t s v r r
, r e h t o o t h e r ) o = o o e
m o t h a n o i r i , t , = m m h
o m o v e f r o m , f r o m " , t
m r , m o v e t o , t h a n o n o
```

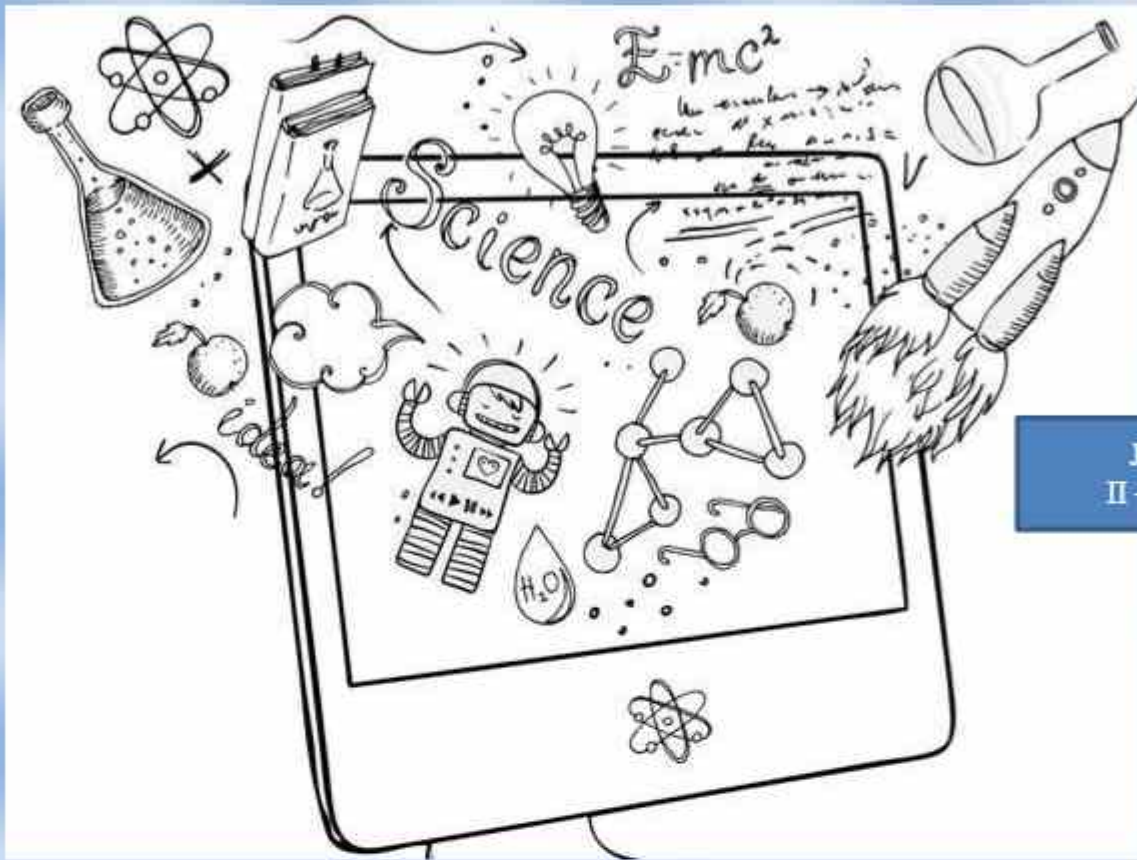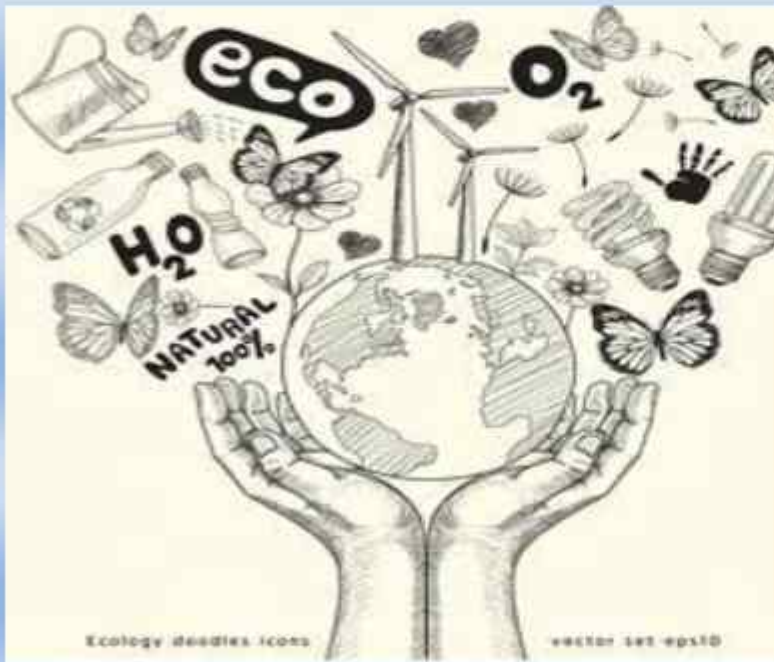## DEPARTMENT GALLERY

CSE (22-23)

M.Maheswaran of II Year went for Microsoft Google Marathon held at Maharastra.

ART GALLERY

Jayanthi B
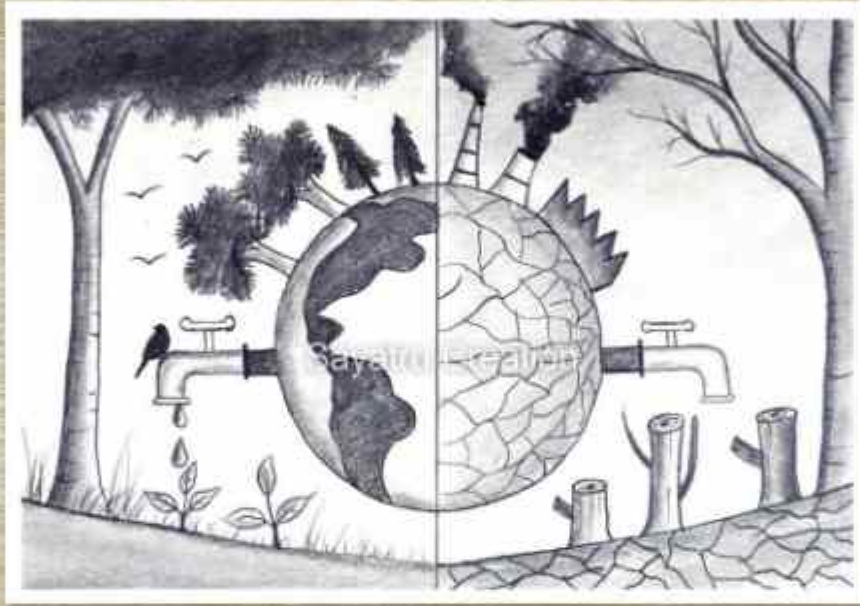II – Year CSE

Balraj S
II – Year CSE

Srikanth C
II – Year CSE

Splendid Art

Shalini A
II – Year CSE

THANK YOU...