

2023/VOL-1/ISSUE 2



Malla Reddy College of Engineering

(Approved by AICTE(New Delhi), Permanently Affiliated to JNTUH & Accredited by NBA & NAAC)
Maisammaguda, Dhulapally, post via Kompally, Secunderabad - 500100

DEPARTMENT of COMPUTER SCIENCE ENGINEERING(AI&ML)

YOUNG MINDS



"The sad thing about artificial intelligence is that it lacks artifice and therefore Intelligence."

www.mrce.in



Malla Reddy College Of Engineering

Vision

To emerge as a Center of Excellence for producing professionals who shall be the leaders in technology ination, entrepreneurship,management and in turn contribute for advancement of society and human kind.

Mission

- M1 : To provide an environment of learning in emerging technologies.
- M2 : To nurture a state of art teaching learning process and R&D culture.
- M3 : To foster networking with Alumni, Industry, Institutes of repute and other stakeholders for effective interaction.
- M4 : To practice and promote high standards of ethical values through societal commitment.

Department Vision

To teach excellence education for undergraduates in the field of Artificial Intelligence and Machine Learning in the technological-embedded domain and make professionals who help the better cause of society.

Department Mission

M1 :

Impart demanding training to create knowledge through the state-of-the-art ideas and skills in Artificial Intelligence and Machine Learning.

M2 :

Facilitate the students to adapt to the rapidly changing technologies by providing cutting-edge laboratories and facilities.

M3 :

Kick off the research and training, paying special attention to the essential skills of the subsequent generation workforce and societal needs.

About The Department

The Department of Artificial Intelligence and Machine Learning (AI&ML) was founded in 2020 with the goal of providing high-quality higher education to as many students as possible and to satisfy the enormous need for highly trained professionals in the industry.

The Department of AI&ML offers a B. Tech program in Computer Science and Engineering (Artificial Intelligence and Machine Learning). The curriculum is created to give students a firm foundation in AI and ML principles and concepts as well as practical experience in handling situations from the real world.

Programming languages, computer architecture, machine learning, natural language processing, artificial intelligence, and deep learning are some of the department's core subjects. Students are continuously trained with an attitude of excellence to overcome automation challenges across all industries and provide new context and background to improve the agile process with the assistance of great laboratory facilities and well-qualified faculty members.

Because of the program's interdisciplinary nature, it draws on knowledge and coursework from many different disciplines, including computer science, mathematics, and statistics. Students will have the chance to take part in research projects in addition to the required courses, both inside the department and with other departments and organizations.

Students who complete the B.Tech. programme in Computer Science and Engineering (Artificial Intelligence and Machine Learning) will be well-versed in the theories and methods of AI & ML and will be qualified for employment in a range of fields and positions, including data analysis, software development, and research.

Department of Computer Science and Engineering (AI&ML)

Program Educational Objectives (PEOs)

PEO1 :

Graduates will obtain robust knowledge in the field of artificial intelligence and machine learning theory and principles for classifying, examining and solving problems.

PEO2 :

Graduates will upgrade skill to work efficiently within a squad and apply suitable practices within a skilled and ethical framework for societal needs

PEO3 :

Graduates will pursue higher education and accomplish sustainable growth through lifelong learning and research.

Program Specific Outcomes (PSOs)

PSO1 :

Using cutting-edge technology, demonstrate design and programming skills to create and automate commercial solutions.

PSO2 :

An ability to grow an ethical and contemplative approach to the machine learning tools that can address complex reasoning tasks for the enhancement of society.

MESSAGES

CHAIRMAN'S MESSAGE



Ch.Malla Reddy

Our college is a beacon of knowledge, fostering an environment that encourages growth and intellectual curiosity. Together, we strive to nurture a community that values academic excellence, innovation, and inclusivity.

I believe that education is the key to unlocking one's full potential, and it is our collective responsibility to empower each student with the skills they need to thrive in an ever-changing world.

PRINCIPAL'S MESSAGE

I am delighted to address you through this magazine, a testament to our college's vibrant spirit and accomplishments.

Our college is a place of dreams and aspirations, where each individual is encouraged to explore their talents and push boundaries. This magazine reflects the creativity and ingenuity of our students, showcasing their achievements in academics, arts, and sports.



Dr. M. Ashok

DIRECTOR'S MESSAGE

To our students, you are the heart and soul of our institution. Your passion, energy, and thirst for knowledge continue to amaze us all. This magazine is a tribute to your achievements, and I have no doubt that the future holds even greater accomplishments for each of you.



Mr. N. Sudheer Reddy

HOD OF H&s DEPARTMENT



Dr. T. Sunil

I am proud to witness the continuous pursuit of excellence displayed by our students in various fields of study. This magazine not only showcases academic brilliance but also highlights the creativity, innovation, and social impact initiatives that our college fosters. I commend our dedicated faculty for their unwavering commitment to shaping young minds and providing a nurturing learning environment.

HOD'S MESSAGE

“Young Minds” is a magazine from the department of CSE (AI&ML). It combines beautiful writing with cutting-edge concepts from the teachers and modern students of the CSE (AI&ML) department. I am convinced that the readers will find the magazine's insightful articles and creative ideas appealing and helpful.

I'd want to thank everyone on my team for their tireless efforts in helping to create this magazine. We also appreciate the help and inspiration from our management and principal. Finally, we would like to express our gratitude to our colleagues and students who served as reviewers for their candid feedback and helpful ideas.



Dr. Anantha Raman Rathinam
{ HOD and Dean IQAC }

Faculty Coordinators



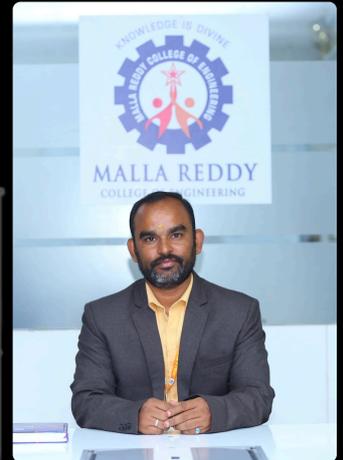
Mr. R Venkatesh
Asst. Professor

The immense potential that AI holds can be understood by the various other technologies that are covered under the umbrella of AI. Some of the examples of such technologies include self-improving algorithms, Machine Learning, Pattern Recognition, Big Data, and many others. In the next few years, it is predicted that there will hardly be any industry left untouched by this powerful tool. This is the reason why AI has so much potential to grow in India.

Department Faculty Members

"Machine Learning: Unleashing the Power of Intelligent Algorithms"

Welcome to the world of Machine Learning, where intelligent algorithms are reshaping our reality. In this magazine, delve into the extraordinary applications of machine learning that are revolutionising industries, enhancing decision-making, and driving innovation. From self-driving cars to personalised healthcare, discover how this cutting-edge technology is propelling us toward a smarter, data-driven future.



Dr. Vivekanandhan
{ Associate Professor
and Dean IIC }



BHARAT
Asst. Professor

In a world where technological innovation knows no bounds, Artificial Intelligence (AI) has emerged as the driving force behind revolutionary changes across industries. AI, the simulation of human intelligence processes by machines, has transcended its science fiction origins to become an integral part of our daily lives. At its core, AI involves the creation of algorithms and systems that enable machines to learn from data and perform tasks that typically require human intelligence.

The art of turning imagination into innovation, logic into algorithms, and dreams into digital realities. It's where creativity meets technology, and where curiosity builds the future."



C. DINESH
Asst. Professor



G. SIRISHA
Asst. Professor

"Unleash the Future with AI: Dive into the latest advancements, insights, and possibilities shaping our world. From automation to creativity, join us on a journey of innovation and discovery. Welcome to the AI Revolution!"



M.SHIVAPRIYA
Asst. Professor



SHANTHI LATHA
Asst. Professor



S.MINEESHA
Asst. Professor



M.SAKTHIVEL
Asst. Professor

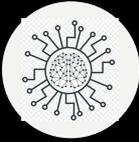


ANJU GOPI
Asst. Professor



Mr. K Lokesh
Asst. Professor

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Other Skills:-

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Music Player Using Python

Creating a music player using Python involves combining various libraries and components to provide a seamless audio playback experience.

To begin, a graphical user interface (GUI) is essential to interact with the music player. The tkinter library, which comes with Python, can be employed to design the GUI. It allows the creation of buttons, labels, and other UI elements. The main window of the music player would typically include buttons for play, pause, stop, next, and previous, along with a display area to show the current track information.

The playback functionality can be implemented using the pygame library. This library provides tools for handling audio files and playing them. To start, the user selects a directory containing their music files. The application scans this directory for supported audio file formats such as MP3, WAV, or FLAC. The file paths are stored in a playlist.

Upon pressing the "play" button, the music player retrieves the selected song from the playlist and uses the pygame.mixer module to play the audio. The "pause" button temporarily halts playback, while the "stop" button ceases playback and resets the position to the beginning of the track. The "next" and "previous" buttons allow users to navigate through the playlist.

A crucial feature of a music player is displaying track information. This includes the song title, artist, album, and cover art. To achieve this, you can use libraries like mutagen to extract metadata from audio files. The cover art can be displayed using image widgets in the tkinter GUI.

Smooth transitions between tracks can be achieved by preloading the next song in the playlist while the current song is playing. This ensures minimal interruptions during track changes.

Additionally, implementing a volume control slider allows users to adjust the audio output level. The pygame.mixer module provides methods to manage volume levels dynamically.

Error handling is important to ensure a robust user experience. Messages or alerts can be displayed in the GUI if the selected directory contains no compatible audio files or if an audio file cannot be played.

In conclusion, building a music player using Python involves integrating libraries like tkinter and pygame to create a functional and user-friendly application. By implementing features such as audio playback, playlist management, track information display, and volume control, you can provide users with an enjoyable music listening experience. This project not only showcases Python's versatility but also offers a platform for further customization and expansion.



CHANDANA ESAMPALLY
III YR CSM

For developing a car price prediction model using machine learning, several regression algorithms can be utilized. Some popular regression models that can play a role in this task include:

1. **Linear Regression:** A basic and interpretable model that assumes a linear relationship between the car's features and its price.
2. **Decision Trees:** A non-linear model that can handle both numerical and categorical features and can capture complex interactions between variables.
3. **Random Forest:** An ensemble method that combines multiple decision trees to improve prediction accuracy and reduce overfitting.

Car Price Prediction 🚗

Car price prediction with machine learning (Machine Learning Python. Libraries: numpy, pandas, matplotlib, sklearn, regression) The goal of this project is to create an efficient and effective model that will be able to predict the price of a used car by using the linear Regression with better accuracy. It is easy for any company to price their new cars based on the manufacturing and marketing cost it involves. But when it comes to a used car it is quite difficult to define a price because it involves it is influenced by various parameters like car brand, manufactured year and etc. The goal of our project is to predict the best price for a pre-owned car in the Indian market based on the previous data related to sold cars using machine learning



V. SURYA KIRAN
III YR CSM

Logistic Regression

LOGISTIC REGRESSION:-

Logistic regression is one of the most popular machine learning algorithms, which comes under the supervised learning technique.

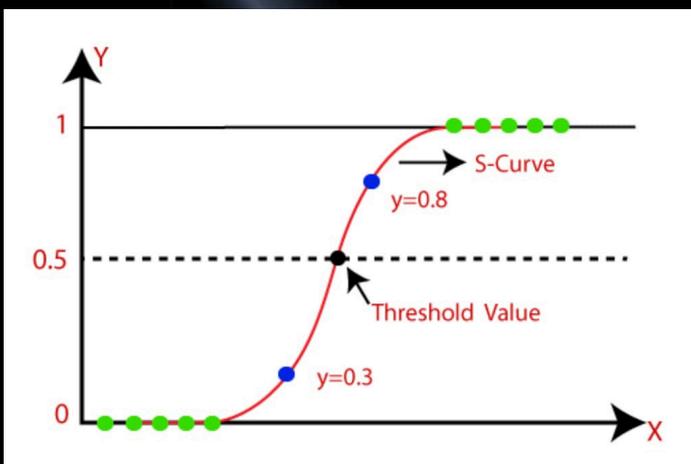
Logistic regression is used for predicting the categorical dependent variables using a given set of independent variables. It predicts the output of a categorical dependent variable, therefore the outcomes must be a categorical or discrete value. It can be either yes or no, 0 or 1, true or false, etc, but instead of giving the exact values as 0 and 1, it gives the probabilistic values which lie between 0 and 1.

Example: There is a dataset given which contains the information of various users obtained from the social networking sites. There is a car making company that has recently launched a new SUV car. So the company wanted to check how many users from the dataset, wants to purchase the car.

For this problem, we will build a Machine Learning model using the Logistic regression algorithm.

In this problem, we will predict the purchased variable (Dependent Variable) by using users information (Independent variables).

In conclusion, logistic regression is a powerful statistical method commonly used for binary classification tasks. It's effective in predicting the probability of an outcome based on input features.



J. SHIVANI
III YR CSM

K- Means Clustering

Unsupervised Learning is a Machine Learning technique in which models are not supervised using training datasets. So one of the Example of Unsupervised learning algorithm is K-Means Clustering algorithm. K-Means clustering is used to solve the clustering problems.

The objective of K-Means clustering is it groups similar data points and discovers underlying patterns. It needs a fixed number(K) of clusters in a dataset to achieve this objective.

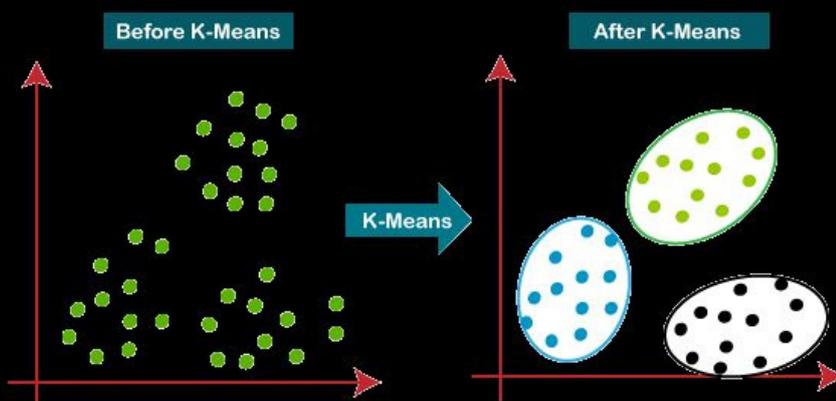
K-Means clustering :-

K-Means Clustering in machine learning works by creating a centroid for desired number of classes. It is an iterative algorithm that divides the unlabeled dataset into k different clusters in such a way that each dataset belongs only one group that has similar properties. Distance measure (Euclidean distance) is used to calculate the similarity and dissimilarity between the data points.

Example:- Business companies have the large datasets of customers information, it is difficult to identify the patterns in datasets without some algorithm, so we can use the K-Means clustering algorithm to classify them.

Applications:- Insurance fraud detection, customer segmentation, Diagnostic system.

In conclusion, this algorithm aim is to reduce the distance between the data points and their centroids within the clusters. It can be used for spam detection and filtering, Identification of fake news.



K. SNEHAJA
III YR CSM

Data Visualization

Data visualization is an essential part of any data analysis project. To make the most out of your data, you need to be able to present it in a clear and concise way that can be easily understood by others. Here's a quick guide to help you get started with data visualization:

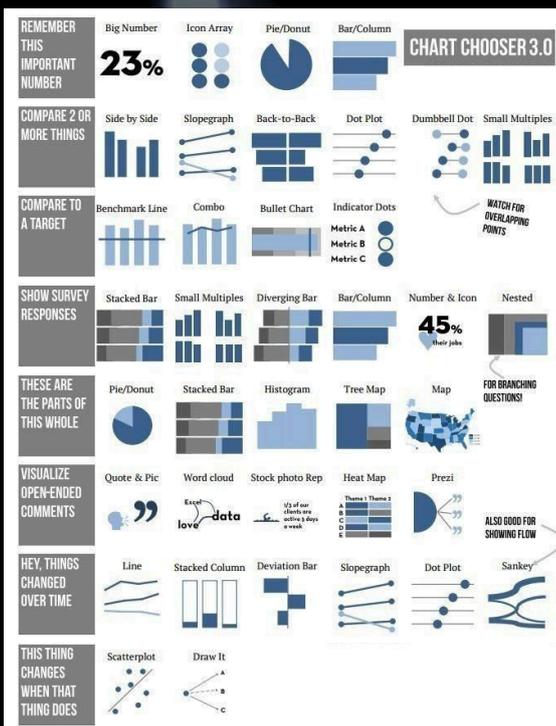
Know your data: Before you start creating visualizations, it's important to understand your data thoroughly. Take the time to explore your data, understand its structure, and identify any patterns or trends.

Choose the right chart type: There are many different chart types to choose from, each with its own strengths and weaknesses. Make sure to choose the chart type that best suits the type of data you're working with and the story you want to tell.

Keep it simple: Avoid cluttering your visualizations with unnecessary information. Stick to the basics and focus on the most important insights you want to convey.

Use color wisely: Color can be a powerful tool in data visualization, but it can also be distracting if used improperly. Use color sparingly and purposefully to highlight the most important information.

Label your visualizations: Don't forget to include clear labels and titles for your visualizations. This will help your audience understand what they're looking at and what insights they can gain from it.



N.SHINY
III YR CSM

Exploratory Data Analysis

Exploratory Data Analysis (EDA) plays a crucial role in comprehending the "Terrorism" dataset. By leveraging Python's pandas library and machine learning techniques, you can extract valuable insights. The initial step involves loading the dataset into a pandas DataFrame, allowing for efficient manipulation and analysis. Through this, you can delve into data exploration, where you thoroughly examine the dataset's structure, scrutinize for any missing values, and assess summary statistics that offer a snapshot of the data's central tendencies and dispersions.

Moving on, data visualization becomes an indispensable tool for uncovering hidden patterns and trends. Visual representations like histograms, scatter plots, and box plots help identify outliers, distributions, and relationships within the dataset. This aids in forming hypotheses and guiding subsequent analysis. Moreover, visualizations can provide a more intuitive grasp of the data's characteristics, which might not be immediately apparent from numerical summaries alone.

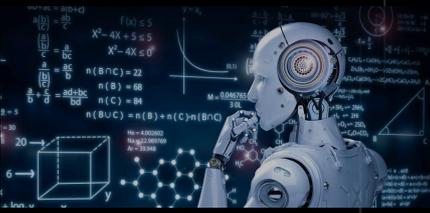
As part of the preprocessing phase for machine learning tasks, EDA enables you to make informed decisions about handling missing values, addressing outliers, and choosing appropriate feature transformations. By understanding the distribution of the target variable, you can decide on potential classification or regression strategies.

In essence, EDA with pandas and machine learning techniques is a multifaceted process that involves loading, exploring, visualizing, and preprocessing the "Terrorism" dataset. It equips you with a solid foundation for making data-driven decisions and developing accurate predictive models.



K. DHANUSH
III YR CSM

Machine Learning



R. PREM SHEKAR
II YR CSM -A

Machine learning is a branch of Artificial Intelligence [AI] and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy.

Over the last couple of decades, the technological advances in

storage and processing power have enabled some innovative products based on machine learning, such as Netflix's recommendation engine and self-driving cars.

Machine learning is an important component of the growing field of data science. Through the use of statistical methods, algorithms are trained to make classifications or predictions, and to uncover key insights in data mining projects.

Virtual Reality

virtual reality (VR), the use of computer modeling and simulation that enables a person to interact with an artificial three-dimensional (3-D) visual or other sensory environment. VR applications immerse the user in a computer-generated environment that simulates reality through the use of interactive devices, which send and receive information and are worn as goggles, headsets, gloves, or body suits. In a typical VR format, a user wearing a helmet with a stereoscopic screen views animate images of a simulated environment.

The illusion of "being there" (telepresence) is effected by motion sensors that pick up the user's movements and adjust the view on the screen accordingly, usually in real time (the instant the user's movement takes place). Thus, a user can tour a simulated suite of rooms, experiencing changing viewpoints and perspectives that are convincingly related to his own head turnings and steps. Wearing data gloves equipped with force-feedback devices that provide the sensation of touch, the user can even pick up and manipulate objects that he sees in the virtual environment.



J.N.V. SAI HARSHAADITYA
II YR CSM -A

How artificial intelligence is transforming the world?



ABHISEKH ROY
II YR CSM -A

Most people are not very familiar with the concept of artificial intelligence (AI). As an illustration, when 1,500 senior business leaders in the United States in 2017 were asked about AI, only 17 percent said they were familiar with it.¹ A number of them were not sure what it was or how it would affect their particular companies.

They understood there was considerable potential for altering business processes, but were not clear how AI could be deployed within their own organizations

Despite its widespread lack of familiarity, AI is a technology that is transforming every walk of life. It is a wide-ranging tool that enables people to rethink how we integrate information, analyze data, and use the resulting insights to improve decisionmaking.

Effect of AI on Transport

Artificial Intelligence (AI) has revolutionized the transport industry in numerous ways, significantly enhancing efficiency, safety, and user experience. AI-powered technologies have been integrated into various aspects of transportation, resulting in transformative effects.

Firstly, AI has improved traffic management and optimization. Smart traffic systems analyze real-time data from cameras, sensors, and GPS devices to predict congestion and implement dynamic traffic control.

This reduces traffic jams, enhances flow, and minimizes commute times. Secondly, autonomous vehicles, enabled by AI, have the potential to revolutionize transportation. Self-driving cars, buses, and trucks promise increased safety and reduced accidents due to AI's ability to process vast amounts of data and make real-time decisions.

Moreover, AI-driven predictive maintenance has led to more reliable and efficient transport systems. By analyzing data from sensors, AI can anticipate maintenance needs, minimizing downtime and ensuring optimal performance.



A.V.NITHIN
II YR CSM-A

Evolution of Farming with AI 🌱

AI has had a transformative impact on agriculture, revolutionizing traditional farming practices and improving overall efficiency and productivity. Precision agriculture is one area where AI excels, with the use of sensors, drones, and satellite imagery to monitor crops, soil conditions, and weather patterns. This enables precise application of water, fertilizers, and pesticides, minimizing waste and environmental impact.

AI-driven algorithms have enhanced crop health and disease detection, enabling early identification of issues like pests, diseases, or nutrient deficiencies. This timely intervention helps farmers take corrective measures and prevent significant crop losses. Additionally, AI can predict crop yields based on historical data and climate patterns, assisting farmers in making informed decisions about planting and harvesting schedules.

The introduction of autonomous machinery and robotics, guided by AI, has revolutionized labor-intensive tasks like planting, harvesting, and weeding. This automation not only increases productivity but also reduces the demand for manual labor.

AI-driven supply chain optimization ensures efficient logistics and distribution of agricultural products, reducing spoilage and ensuring timely deliveries to markets. Moreover, AI aids in developing intelligent pest control methods, targeting specific areas for pesticide application, thereby minimizing overall chemical usage.

Despite these advancements, challenges remain, including data privacy concerns, potential job displacement, and ethical considerations related to AI's use in agriculture. Addressing these challenges is vital to maximize the benefits of AI while ensuring sustainable and responsible agricultural practices.



K.V. GOPI KRISHNA SAI
II YR CSM -A

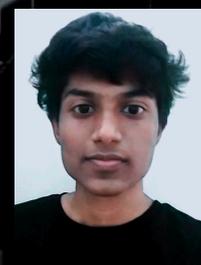
⌚ Time Travel ⌚

Time travel is a fascinating concept that has captivated the human imagination for centuries. The idea of journeying to the past or the future has been popularized through countless books, movies, and scientific discussions. While it continues to be a topic of debate, both among scientists and the general public, there are arguments supporting the possibility and impossibility of time travel.

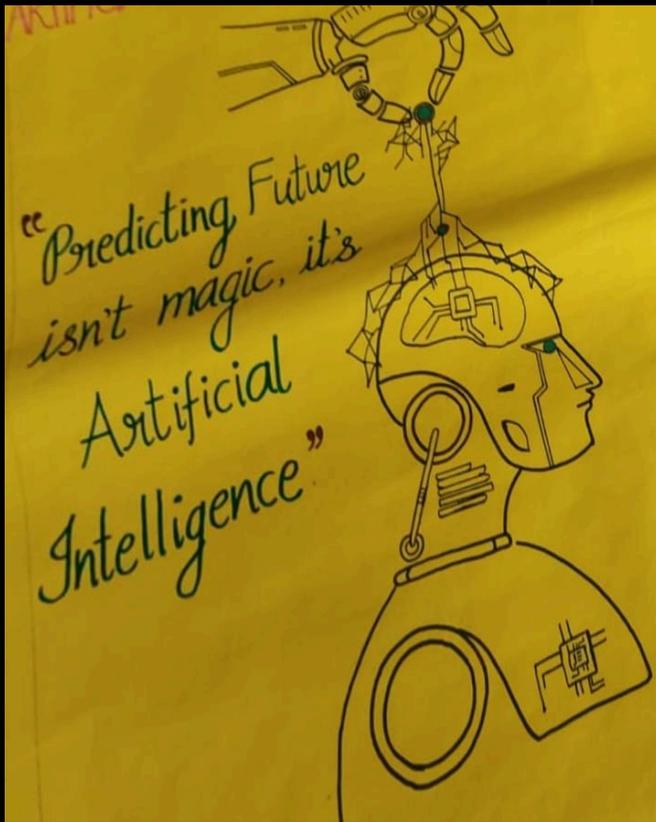
On one hand, some theories in physics, particularly those related to wormholes and black holes, propose the potential feasibility of time travel. According to Einstein's theory of general relativity, massive objects can bend the fabric of spacetime, creating what is known as a "gravitational well." If an object could travel through such a well, it might be possible to traverse time.

On the other hand, various challenges and paradoxes cast doubts on the practicality of time travel. The most famous of these paradoxes is the "grandfather paradox," where a time traveler could potentially alter the past, leading to contradictions like preventing their own existence. This paradox and others like it raise questions about the self-consistency of time travel scenarios and the potential for creating infinite loops of cause and effect.

Moreover, even if time travel were possible, the ethical implications and risks involved in altering past events or interacting with different historical periods raise significant concerns.



A. HEMANTH SWAMY
II YR CSM -A



D. MADHURI
III YR CSM

Our intelligence is what makes us human, and AI is an extension of that quality. "Artificial intelligence is not a product of the technology, but a product of the human ability to imagine the future."

AI In E-sports

Artificial intelligence (AI) has been present in games for years. It is often used to create NonPlayer Characters (NPCs) that can interact with the player. Sometimes, these NPCs are highly complex and have their personalities and goals.

So how does AI work? The basic idea behind AI is that it's a computer program that can learn from experience and adapt its behaviour accordingly.

For example, if an AI program loses 90% of its matches against humans, it'll need some way to improve its performance before winning more games. This process is machine learning, which uses algorithms to improve over time using data from previous matches and feedback from developers or users watching these games.

7 Benefits of AI in eSports

- 01 Competition management
- 02 Player development
- 03 Player health monitoring
- 04 Fan engagement and experience
- 05 Branding and marketing
- 06 Improved coaching and training methods
- 07 More accurate betting odds and betting trends



-M.Naga Babu
II YR CSM - A

Raspberry Pi

Raspberry Pi :-

Raspberry Pi is a series of small single-board computers (SBCs) developed in the United Kingdom by the Raspberry Pi Foundation in association with Broadcom. The Raspberry Pi project originally leaned toward the promotion of teaching basic computer science in schools. The original model became more popular than anticipated, selling outside its target market for uses such as robotics. It is widely used in many areas, such as for weather monitoring, because of its low cost, modularity, and open design. It is typically used by computer and electronic hobbyists, due to its adoption of the HDMI and USB standards.

In 2015, the Raspberry Pi surpassed the ZX Spectrum in unit sales, becoming the best-selling British computer

There are three series of Raspberry Pi, and several generations of each have been released. Raspberry Pi SBCs feature a Broadcom system on a chip (SoC) with an integrated ARM-

(CPU) and on-chip graphics processing unit (GPU), while Raspberry Pi Pico has a RP2040 system on chip with an integrated ARM-compatible compatible central processing unit.

The Raspberry Pi hardware has evolved through several versions that feature variations in the type of the central processing unit, amount of memory capacity, networking support, and peripheral-device support.

This block diagram describes models B, B+, A and A+. The Pi Zero models are similar, but lack the Ethernet and USB hub components. The Ethernet adapter is internally connected to an additional USB port. In Model A, A+, and the Pi Zero, the USB port is connected directly to the system on a chip (SoC).



K. RAMA SIVAJI
II YR CSM - A

Expert System

An expert system is a computer program that is designed to solve complex problems and to provide decision-making ability like a human expert. It performs this by extracting knowledge from its knowledge base using the reasoning and inference rules according to the user queries.

Below is the block diagram that represents the working of an expert system:

Components of Expert System

An expert system mainly consists of three components:

- User Interface
- Inference Engine
- Knowledge Base

Advantages of Expert System

These systems are highly reproducible.

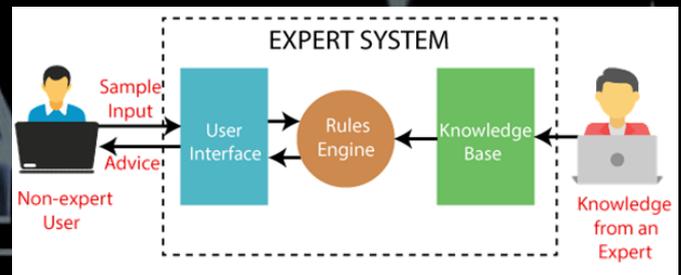
They can be used for risky places where the human presence is not safe.

Error possibilities are less if the KB contains correct knowledge.

The performance of these systems remains steady as it is not affected by emotions, tension, or fatigue.

They provide a very high speed to respond to a particular query.

CH.PAVAN
KUMAR
II YR CSM-A



Think?? 

"I am a type of AI that learns from experience and can find patterns in data.

What am I? "

Misuse of AI and its consequences

The emergence of AI has offered great boom for enterprises all across the world. Advancements in technologies like AI, machine learning, and several others have found widespread acceptance in enterprises for managing their operations and processes. However, AI is misused by several organizations and its consequences are devastating. In this article, we have enlisted the top misuses of AI and the consequences that we face in .

Deepfakes:

The most recent instance of AI-generated deepfakes being exploited to create compromising photographs of unknowing women is the DeepNude nudie app, which just went viral. Women can be humiliated, harassed, intimidated, and silenced with these photos.

Denial of Service (DoS) Attacks:

These are nothing new, but they are getting more and more complex. AI-driven DoS assaults with human-like characteristics are challenging to stop. A DoS attack is a form of cyber-attack where a cybercriminal prevents legitimate users of a networked systemservicewebsiteapplication from using it.

Spear phishing attacks:

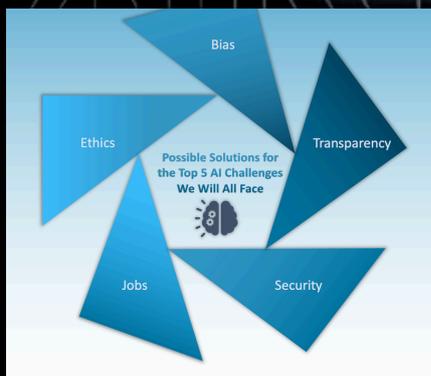
An important cybersecurity concern is posed by spear-phishing assaults using AI. AI can produce context-specific emails for spear-phishing attacks thanks to ML algorithms that identify patterns in datasets.

Terrorist attacks:

Since many AI capabilities are open-source libraries, anyone can easily access them. As a result, image recognition, facial recognition, etc. technologies could easily reach a dreaded terrorist group, which can launch a terror attack relatively easily.

Swarm attacks:

This kind of attacks utilise a technology called Swarm intelligence, which involves swarm-based bots. Cybercriminals will replace botnets with Hivenets, i.e., clusters of compromised devices that use AI.



A. SAI TEJA
II YR CSM -A

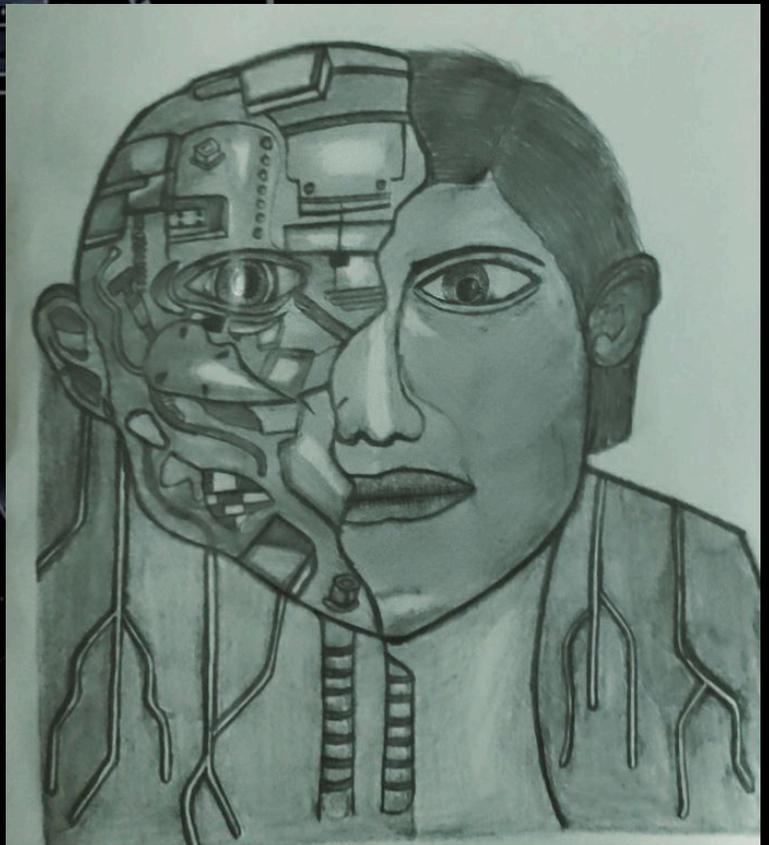


BHAVANI
II YR CSM- B

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JYOTHIRMAI
II YR CSM - A



Block Chain

Blockchain technology is a decentralized and distributed digital ledger system that securely records transactions across multiple computers or nodes. It gained popularity due to its application in cryptocurrencies like Bitcoin. Unlike traditional centralized databases, blockchain operates on a peer-to-peer network, ensuring transparency, security, and immutability of data.

Each block in the blockchain contains a set of transactions and a unique cryptographic hash, linking it to the previous block, creating a chain. Once a block is added, altering its contents or any previous block becomes extremely difficult, enhancing data integrity. This tamper-resistant property makes blockchain suitable for applications beyond cryptocurrencies.

Smart contracts are self-executing agreements programmed on the blockchain, automatically triggering actions when specific conditions are met. They facilitate trustless interactions and enable complex processes, such as supply chain management, voting systems, and decentralized finance (DeFi) platforms.

Blockchain's decentralized nature reduces the need for intermediaries, streamlining processes and lowering transaction costs. It empowers individuals to have control over their data and promotes anonymity while ensuring data privacy through encryption.

However, blockchain faces challenges like scalability, energy consumption, and regulatory concerns. Solutions like sharding and proof-of-stake aim to address scalability and energy efficiency. Governments are gradually recognizing its potential, creating regulations to foster its responsible implementation.



A.D Anurag
II YR CSM-A

The Future is AI 🤖

How Artificial Intelligence is Changing our World?

Among the more sombre gifts brought by the Enlightenment was the realisation that humans might one day become extinct. The astronomical revolution of the 17th century had shown that the solar system both operated according to the highest principles of reason and contained

comets which might conceivably hit the Earth. The geological record, as interpreted by the Comte de Buffon, showed massive extinctions in which species vanished forever. That set the scene for Charles Darwin to recognise such extinctions as the motor of evolution, and thus as both the force which had fashioned humans and, by implication, their possible destiny. The nascent science of thermodynamics added a cosmic dimension to the certainty of an ending; Sun, Earth and the whole shebang would eventually run down into a lifeless "heat death".

Artificial Intelligence (AI), coupled with prompt engineering, is transforming our technological landscape. These fields equip systems with capabilities once exclusive to human intellect, from visual perception to decision-making. In sectors ranging from healthcare to finance, AI's impact is profound. Yet, as we navigate this digital revolution, we must also grapple with its ethical implications. Our Tech Talk section serves as your gateway into this dynamic, complex world of AI and prompt engineering.



P. VAMSHI
IIYR CSM-C

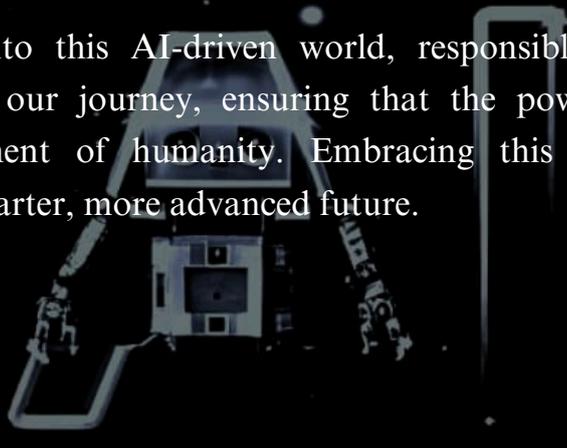
The Synergy of AI and Robotics

Artificial Intelligence (AI) and Robotics have become two of the most transformative technologies of the 21st century. Their convergence has opened up new horizons across various industries and profoundly impacted our daily lives.

This article explores the dynamic relationship between AI and Robotics, the advancements achieved thus far, and the promising future they hold in shaping a smarter and more

The symbiotic relationship between AI and Robotics has ushered in a new era of possibilities. These cutting-edge technologies are redefining industries, propelling innovation, and driving societal transformation.

As we progress further into this AI-driven world, responsible development and ethical considerations must guide our journey, ensuring that the power of AI and Robotics is harnessed for the betterment of humanity. Embracing this technological synergy will undoubtedly lead us to a smarter, more advanced future.



Ramya Kala Sai
II YR CSM-C

Think?? 

"I am an AI concept that refers to machines capable of performing tasks without human intervention.

What am I?

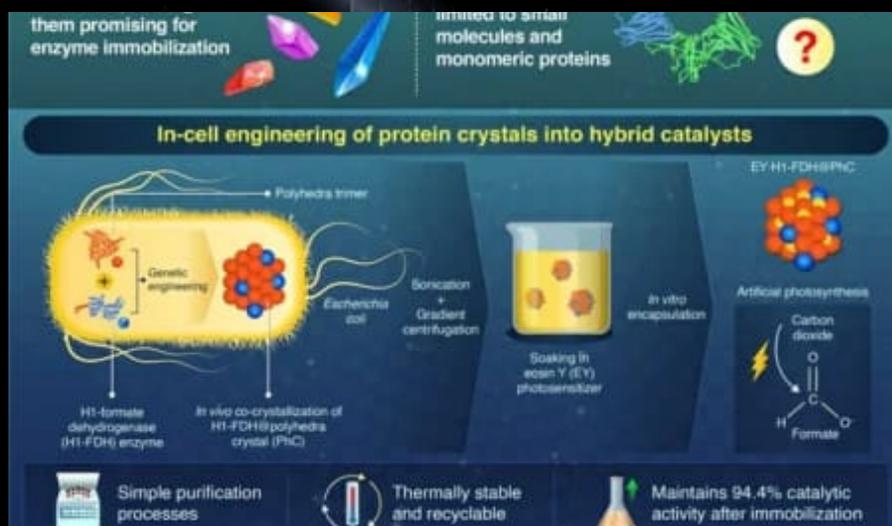
Artificial Photosynthesis With Engineering Of Protein Crystals

In-cell engineering can be a powerful tool for synthesizing functional protein crystals with promising catalytic properties, show researchers at Tokyo Tech. Using genetically modified bacteria as an environmentally friendly synthesis platform, the researchers produced hybrid solid catalysts for artificial photosynthesis. These catalysts exhibit high activity, stability, and durability, highlighting the potential of the proposed in-cell approach.

Protein crystals, like regular crystals, are well-ordered molecular structures with diverse properties and a huge potential for customization. They can assemble naturally from materials found within cells, which not only greatly reduces the synthesis costs but also lessens their environmental impact.

Although protein crystals are promising as catalysts because they can host various functional molecules, current techniques only enable the attachment of small molecules and simple proteins.

Thus, it is imperative to find ways to produce protein crystals bearing both natural enzymes and synthetic functional molecules to tap their full potential for enzyme immobilization. The building block of the hybrid catalyst is a protein monomer derived from a virus that infects the *Bombyx mori* silkworm. The researchers introduced the gene that codes for this protein into *Escherichia coli* bacteria, where the produced monomers formed trimers that, in turn, spontaneously assembled into stable polyhedra crystals (PhCs) by binding to each other through their N-terminal α -helix (H1).



P. RAVI KUMAR
II YR CSM -A

Importance Of Mental Health

Risk factors of poor Mental Health :-

Mental health is described as a state of well-being where a person is able to cope with the normal stresses of life. This state permits productive work output and allows for meaningful contributions to society. However, different circumstances exist that may affect the ability to handle life's curveballs. These factors may also disrupt daily activities, and the capacity to manage these changes.

The following factors, listed below, may affect mental well-being and could increase the risk of developing psychological disorders. Mental health is a crucial aspect of overall well-being and is essential for leading a fulfilling and productive life. It encompasses our emotional, psychological, and social well-being. Mental health affects how we think, feel and act, influencing our ability to cope with stress, make decisions, and maintain healthy relationships.

How to Maintain Mental Health and Well-Being

Because mental health is so important to general wellness, it's important that you take care of your mental health.

To keep mental health in shape, a few introductions to and changes to lifestyle practices may be required. These include:7

1. Taking up regular exercise-
2. Prioritizing rest and sleep on a daily basis
3. Trying meditation
4. Learning coping skills for life challenges
5. Keeping in touch with loved ones
6. Maintaining a positive outlook on life



M. HEMALATHA
II YR CSM - A

Think??

I am a subfield of AI that focuses on teaching computers how to understand and process human language. What am I?"

Neural Network

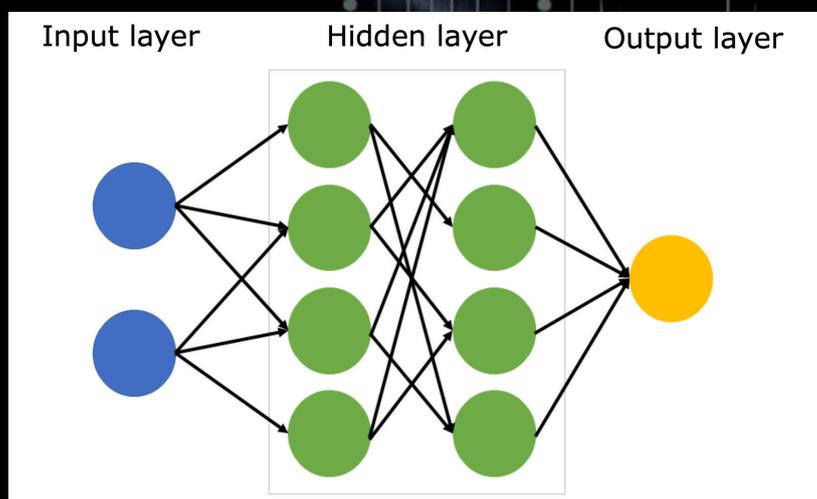
Past 10 years, the best-performing artificial-intelligence systems — such as the speech recognizers on smartphones or Google’s latest automatic translator — have resulted from a technique called “deep learning.”

Deep learning is in fact a new name for an approach to artificial intelligence called neural networks, which have been going in and out of fashion for more than 70 years. Neural networks were first proposed in 1944 by Warren McCulloch and Walter Pitts, two University of Chicago researchers who moved to MIT in 1952 as founding members of what’s sometimes called the first cognitive science department.

“There’s this idea that ideas in science are a bit like epidemics of viruses,” says Tomaso Poggio, the Eugene McDermott Professor of Brain and Cognitive Sciences at MIT, an investigator at MIT’s McGovern Institute for Brain Research, and director of MIT’s Center for Brains, Minds, and Machines. “There are apparently five or six basic strains of flu viruses, and apparently each one comes back with a period of around 25 years. People get infected, and they develop an immune response, and so they don’t get infected for the next 25 years. And then there is a new generation that is ready to be infected by the same strain of virus. In science, people fall in love with an idea, get excited about it, hammer it to death, and then get immunized — they get tired of it. So ideas should have the same kind of periodicity!”

Weighty matters

Neural nets are a means of doing machine learning, in which a computer learns to perform some task by analyzing training examples. Usually, the examples have been hand-labeled in advance. An object recognition system, for instance, might be fed thousands of labeled images of cars, houses, coffee cups, and so on, and it would find visual patterns in the images that consistently correlate with particular labels.



M. ANUSHA
II YR CSM -A

Chandrayaan-3

Chandrayaan-2, where a last-minute glitch in the landing guidance software led to the lander crashing after entering lunar orbit, another lunar mission was proposed.

The launch of Chandrayaan-3 took place on 14 July 2023, at 2:35 pm IST[10] and lunar injection of 100 km circular polar orbit was completed successfully as part of phase one. The lander and rover are expected to land near the lunar south pole region on 23 August 2023.

The Chandrayaan-3 mission is a stepping stone towards ISRO's future interplanetary missions. The key idea is technology demonstration of crucial capability to soft land on lunar surface safely that the earlier mission could not achieve.

Chandrayaan-3 is the third and most recent lunar Indian Space Research exploration mission under the Chandrayaan programme. It consists of a lander named Vikram and a rover named Pragyan similar to Chandrayaan-2, but does not have an orbiter. Its propulsion module behaves like a communication relay satellite. The propulsion module carries the lander and rover configuration until the spacecraft is in a 100 km lunar orbit.



E. MAHESH
II YR CSM - A

Think?? 

"I am a virtual assistant developed by Apple. People often ask me questions and give me tasks to perform.

What am I?

5G Technology

In recent years, the world has witnessed a technological revolution that has transformed the way we live, work, and communicate. At the forefront of this revolution stands 5G technology, the fifth generation of wireless cellular networks. 5G promises to revolutionize the digital landscape by offering lightning-fast speeds, unprecedented connectivity, and enabling innovative applications that were once considered science fiction.

The Foundation of 5G:

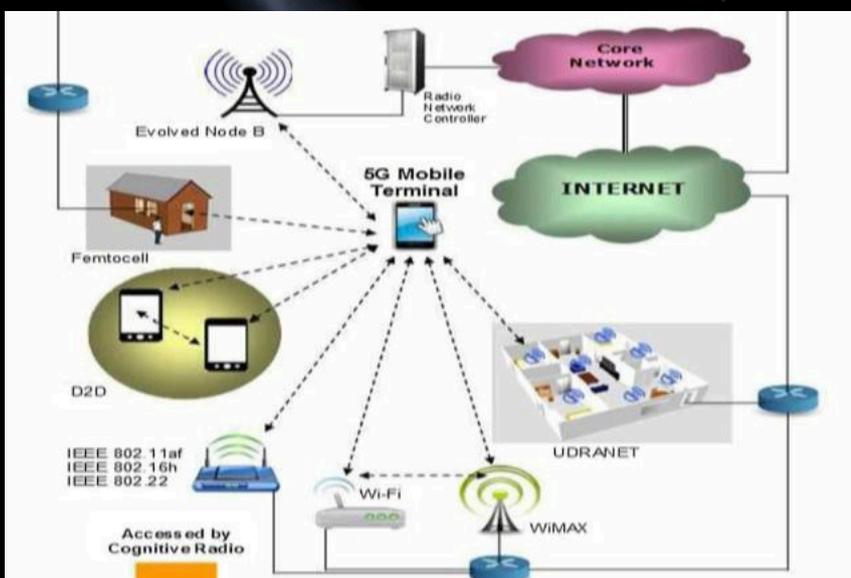
At its core, 5G technology is built upon three main pillars: enhanced mobile broadband (eMBB), ultra-reliable low-latency communication (URLLC), and massive machine-type communication (mMTC). eMBB provides blazing-fast download and upload speeds, enabling seamless streaming, immersive virtual reality experiences, and high-quality video conferencing.

The Advantages of 5G:

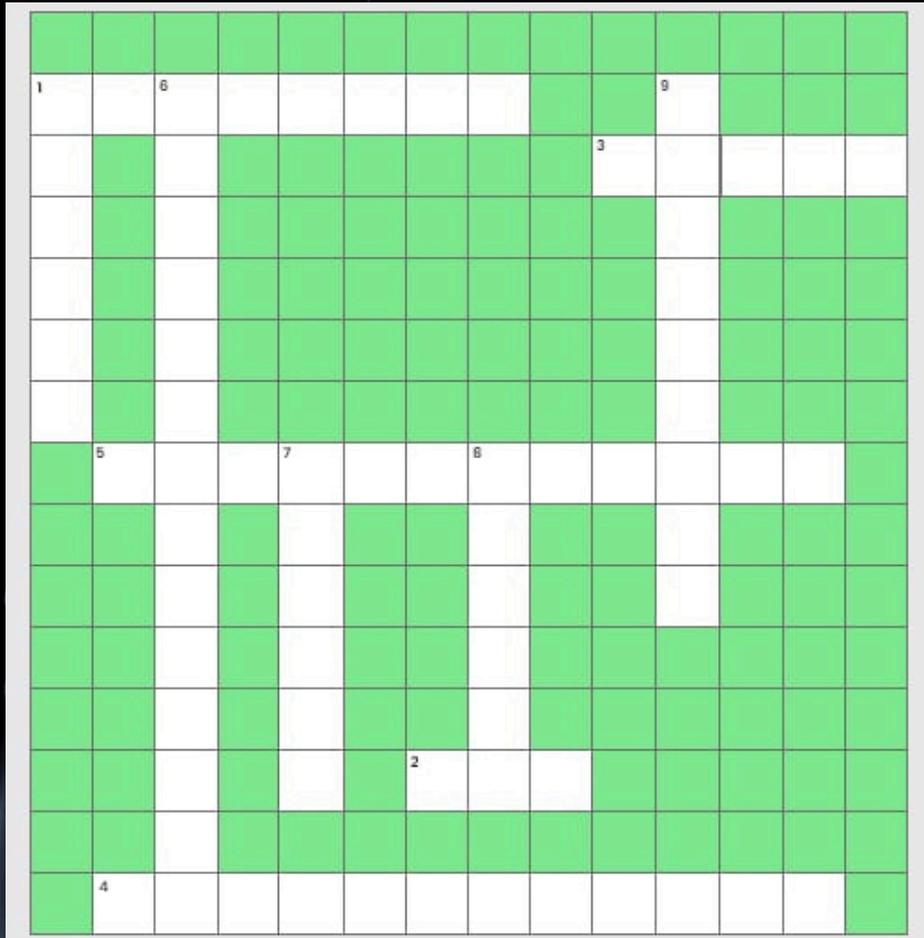
Compared to its predecessor, 4G LTE, 5G offers several distinct advantages that make it a game-changer in the tech world. First and foremost, 5G boasts speeds up to 100 times faster than 4G, enabling quicker downloads and smoother streaming experiences. Additionally, the lower latency of 5G enhances real-time interactions, making it possible for applications like augmented reality (AR) and virtual reality (VR) to flourish.

Challenges and Future Prospects:

As with any technological advancement, 5G also faces challenges. The massive infrastructure required for deploying 5G networks, including the installation of small cell towers, presents logistical and regulatory hurdles. Moreover, concerns over data privacy and security must be addressed to ensure the safe and responsible use of 5G technology.



B. SRUTHI
II YR CSM -A



Across:

1. AI is used for ___ purposes, facial recognition, intrusion detection, and cybersecurity threat analysis.
2. ___ is the concept by which machines mimic or emulate the human mind's intelligence or human behavior, with the ability to learn and apply this approach/intelligence to solve any kind of varied problems.
3. ___ Intelligence is a mental quality to learn from experiences, adapting to new situations and manipulating one's environment by using knowledge.
4. ___ is the ability to learn and solve problems. This definition is taken from Webster's Dictionary.
5. Through this technique AI models can learn the underlying patterns and create realistic and novel outputs.

Down:

6. A field of AI that deals with the processing and analysis of visual information using computer algorithms.
7. ___ Systems is technology based on AI systems that mimic the decision-making ability of a human expert in a specific field.
8. ___ test is used to determine whether or not a computer(machine) can think intelligently like humans.
9. ___ Intelligence is the talk of a new changing and growing world that can be defined as a set of concepts and methodologies to improve decision-making in business through the use of facts and fact-based systems

The Art of Time Management: Unlocking Productivity and Balance

Effective time management is a fundamental skill in today's fast-paced world. It empowers individuals to maximize productivity, achieve goals, and maintain a healthy work-life balance. Mastering the art of time management requires discipline, self-awareness, and a commitment to continuous improvement.

Firstly, setting clear goals is essential. By defining specific, measurable, achievable, relevant, and time-bound (SMART) objectives, individuals can prioritize tasks and focus their efforts efficiently. Creating to-do lists or using time management apps can aid in organizing daily activities.

Next, understanding one's own productivity patterns is crucial. Some people perform better in the morning, while others are more energetic during the evening. Tailoring schedules to align with personal peak productivity times can lead to more effective outcomes.

Additionally, learning to say 'no' is a vital aspect of time management. Accepting every request or invitation can lead to overwhelming commitments and compromised productivity. By selectively choosing which tasks to take on, individuals can allocate their time more strategically.

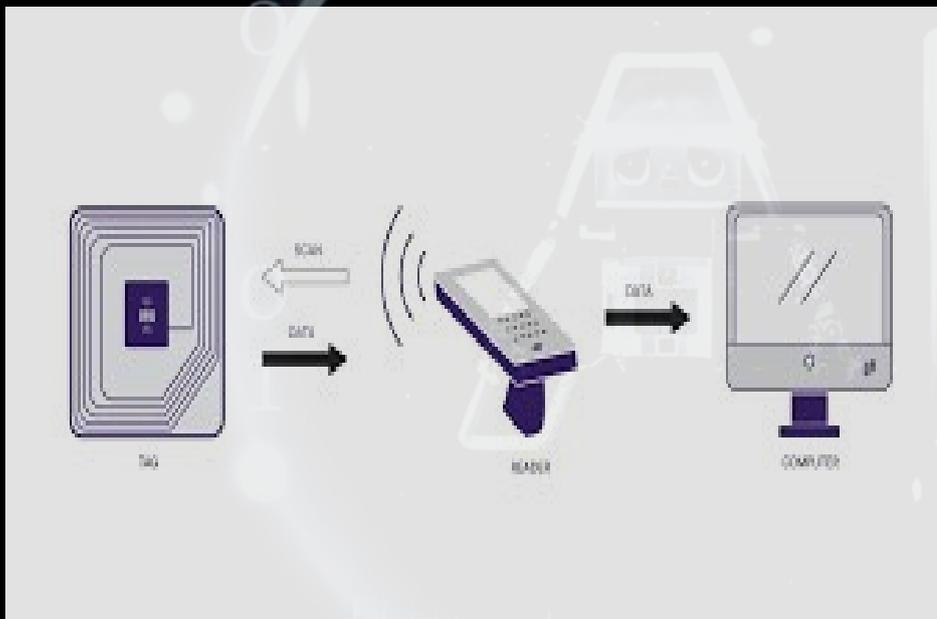
In conclusion, mastering the art of time management is a continuous journey of self-discovery and improvement. By setting clear goals, understanding personal productivity patterns, saying 'no' when necessary, avoiding multitasking, taking regular breaks, and balancing work and personal life, individuals can unlock their full potential, leading to greater productivity and a more balanced and satisfying life.



M. HARSHITH
II YR CSM-A

Radio Frequency Identification

Radio Frequency Identification (RFID) is a form of wireless communication that incorporates the use of electromagnetic or electrostatic coupling in the radio frequency portion of the electromagnetic spectrum to uniquely identify an object, animal or person. It uses radio frequency to search, identify, track and communicate with items and people. It is a method that is used to track or identify an object by radio transmission uses over the web. data digitally encoded in an (RFID) tag which might be read by the reader. this device work as a tag or label during which data read from tags that are stored in the database through the reader as compared to traditional barcodes and QR codes. it is often read outside the road of sight either passive or active (RFID)



B.BINDU
II YR CSM-B

Think?? 

"I am a technique used in AI, particularly in neural networks, where connections between neurons are strengthened or weakened over time.

What am I?

PSLV-C56

The PSLV-C56 is the 58th mission of Indian Space Research Organisation's Polar Satellite Launch Vehicle (PSLV) and the 17th flight of the PSLV-CA variant, and will be get launched from Satish Dhawan Space Centre First Launch Pad (FLP).

PSLV-C56, DS-SAR - PS1 and PS2 stack being transported from PIF to MST at First Launch Pad (FLP) 02

It was launched on Sunday, 30 July 2023 at 06:31 IST / 01:01 UTC from Satish Dhawan Space Centre, Sriharikota, Andhra Pradesh, India. This is a dedicated commercial mission through NSIL with DS-SAR as primary satellite and VELOX-AM as a co-passenger satellite with other 5 cubesats, all of which belongs to Singapore.

The mission is successfully accomplished. PSLV-C56 vehicle launched all seven satellites precisely into their intended orbits. Thanks to @NSIL_India and Singapore, for the contract,” ISRO said on Twitter after the launch.

“PSLV-C56 carrying seven satellites including the primary satellite DS-SAR and 6 co-passenger satellites have been successfully placed in the right orbit,” ISRO chief S Somanath said.

“The PS4 stage de-orbiting experiment is successful,” it said DS-SAR, a radar imaging earth observation satellite is a primary satellite for the mission. It was developed under a partnership between the Defence Science and Technology Agency (representing the government of Singapore) and ST Engineering.



P. Venu Madhav Rao
II YR CSM - A

Nano Technology

Nanotechnology, often shortened to nanotech, is the use of matter on atomic, molecular, and supramolecular scales for industrial purposes. The earliest, widespread description of nanotechnology referred to the particular technological goal of precisely manipulating atoms and molecules for fabrication of macroscale products, also now referred to as molecular nanotechnology. A more generalized description of nanotechnology was subsequently established by the National Nanotechnology Initiative, which defined nanotechnology as the manipulation of matter with at least one dimension sized from 1 to 100 nanometers (nm). This definition reflects the fact that quantum mechanical effects are important at this quantum-realm scale, and so the definition shifted from a particular technological goal to a research category inclusive of all types of research and technologies that deal with the special properties of matter which occur below the given size threshold. It is therefore common to see the plural form "nanotechnologies" as well as "nanoscale technologies" to refer to the broad range of research and applications whose common trait is size.

Nanotechnology as defined by size is naturally broad, including fields of science as diverse as surface science, organic chemistry, molecular biology, semiconductor physics, energy storage, engineering, microfabrication, and molecular engineering. The associated research and applications are equally diverse, ranging from extensions of conventional device physics to completely new approaches based upon molecular self-assembly,[8] from developing new materials with dimensions on the nanoscale to direct control of matter on the atomic scale



D. Shiva
II YR CSM - A

Web Scraping

In today's competitive world, everybody is looking for ways to innovate and make use of new technologies. Web scraping (also called web data extraction or data scraping) is an automated process that extracts data from a website and exports it in a structured format.

Web scraping is especially useful if the public website you want to get data from doesn't have an API, or only provides limited access to web data.

Web scraping is the process of collecting structured web data in an automated manner. It's also widely known as web data extraction or web data scraping.

Some of the main use cases of web scraping include price monitoring, price intelligence, news monitoring, lead generation, and market research among many others.



KEERTHIKA
CHOWDARY
II YR CSM - C

Think?? 

"I am a process in which AI algorithms make decisions and take actions based on analyzing data and patterns. What am I?"

.....

What is Artificial Intelligence

AI, which stands for Artificial Intelligence, is a field of computer science that focuses on creating machines or systems that can perform tasks that typically require human intelligence. These tasks include learning, reasoning, problem-solving, perception, language understanding, and decision-making. AI systems use algorithms and data to mimic cognitive functions and adapt their behavior based on experience.

AI has the potential to help the present situation in various ways:

1. **Healthcare:** AI can assist in diagnosing medical conditions, predicting outbreaks, and accelerating drug development, which is particularly valuable during pandemics and healthcare crises.
2. **Remote Work and Education:** AI-powered tools and virtual assistants can enhance remote work efficiency and support online education, ensuring continuity in these areas.
3. **Logistics and Supply Chain:** AI can optimize supply chains, manage inventory, and predict demand fluctuations, helping maintain essential supplies and ensuring smoother distribution.
4. **Natural Disaster Management:** AI can aid in early warning systems, disaster response planning, and resource allocation during natural disasters or emergencies.



A. ALEKHYA
II YR CSM - B

Big Data Revolution

The big data revolution refers to the significant advancements in collecting, storing, processing, and analysing vast amounts of data to gain insights and make informed decisions across various industries. It has transformed how businesses, governments, and organisations operate, enabling them to harness data-driven strategies for better understanding customer behaviour, improving services, and enhancing overall efficiency. The big data revolution has been fueled by advancements in technology, such as cloud computing, data analytics, and machine learning, which have enabled organisations to extract valuable information from large datasets. What makes big data very important ?

- A Stage that provides a massive amount of information for analytics decision making.
- Improve business strategies by concentrating on customer needs.
- Helps operations to convert to a real-time output and to be more active.
- Cost-effectiveness (efforts, time, expenses) with high-quality results.
- Mandatory for any revolutionary technology to produce the ultimate achievements.



HYNDHAVI
II YR CSM - C

Think?? 

"I am a popular AI framework developed by Google that helps build and train machine learning models. What am I?"

Poem

Adding inventory silent,
We feed it at every moment.

Allowing intrusion,
we're chums,
Sucking our brains through
Our thumbs,

Ample Ingredients summing,
Electrobiology becoming,

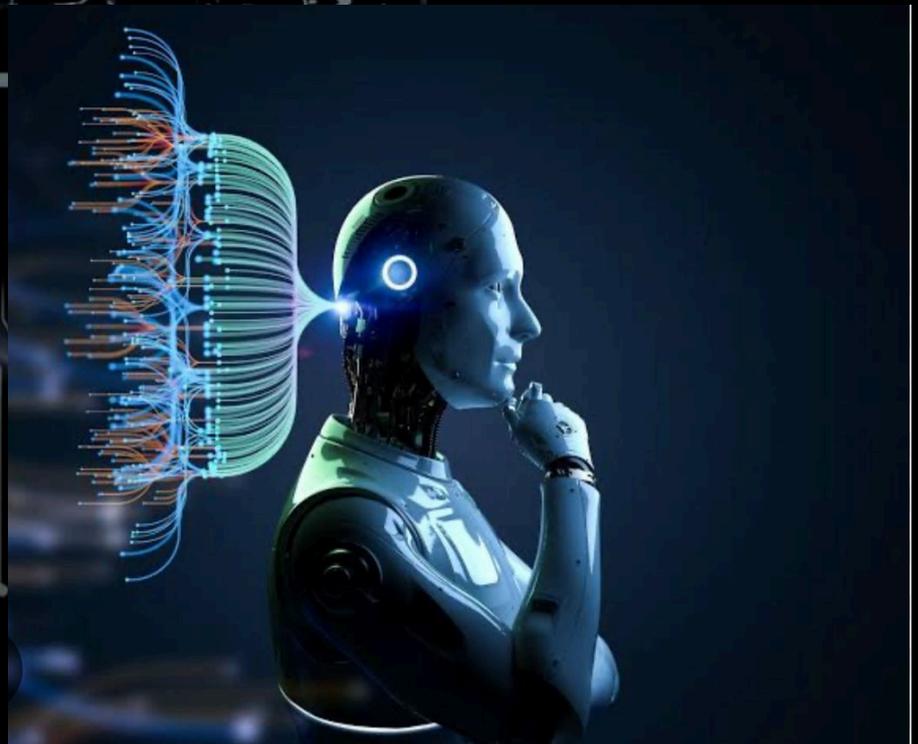
Already Implemented,
In our image but
not regulated.

Artificial Intelligence,
Eliminate negligence.

Humanity's rogue pet,
Careful what you feed it,
Or it will bite you bet.



B.L. BHARANI
II YR CSM-A



Geography Of INDIA

The geography of India is extremely diverse, with landscape ranging from snow-capped mountain ranges to deserts, plains, hills and plateaus. India comprises most of the Indian subcontinent situated on the Indian Plate, the northerly portion of the Indo-Australian Plate. Having a coastline of over 7,000 km (4,300 miles), most of India lies on a peninsula in southern Asia that protrudes into the Indian Ocean. India is bounded in the southwest by the Arabian Sea and in the southeast by the Bay of Bengal.

The fertile Indo-Gangetic plain occupies most of northern, central and eastern India, while the Deccan Plateau occupies most of southern India. To the west of the country is the Thar Desert,

which consists of a mix of rocky and sandy desert. India's east and northeastern border consists of the high Himalayan range. The highest point in India is disputed due to a territorial dispute with Pakistan; according to India's claim, the highest point (located in the disputed Kashmir territory) is K2, at 8,611 m (28,251 feet). The highest point in undisputed Indian territory is Kangchenjunga, at 8,598 m (28,208 feet). Climate ranges from equatorial in the far south, to tundra in the Himalayan altitudes.

India is bordered by Pakistan, the People's Republic of China, Bangladesh, Myanmar, Nepal, Bhutan and Afghanistan. Sri Lanka and the Maldives are island nations to the south of India. Politically, India is divided into 28 states, six federally administered union territories and a national capital territory. The political divisions generally follow linguistic and ethnic boundaries rather than geographic transitions.



Continent	Asia
Region	South Asia and Southeast Asia (Indian subcontinent)
Coordinates	 21°N 78°E
Area	Ranked 7th
• Total	3,287,263 km ² (1,269,219 sq mi)
• Land	91%
• Water	9%
Coastline	7,516.6 km (4,670.6 mi)
Borders	Total land borders: ^[1] 15,200 km (9,400 mi) Bangladesh: 4,096.70 km (2,545.57 mi) China (PRC): 3,488 km (2,167 mi) Pakistan: 3,323 km (2,065 mi) Nepal: 1,751 km (1,088 mi) Myanmar: 1,643 km (1,021 mi) Bhutan: 699 km (434 mi)
Highest point	Kangchenjunga 8,586 m (28,169 ft)
Lowest point	Kuttanad −2.2 m (−7.2 ft)
Longest river	Ganges (or Ganga) 2,525 km (1,569 mi)
Largest lake	Loktak Lake (freshwater) 287 km ² (111 sq mi) to 500 km ² (190 sq mi) Chilika Lake (brackish water) 1,100 km ² (420 sq mi)



A. NARENDAR
II YR CSM-A

MetaVerse

Among early adopters, there's still much hype around the metaverse, and what is or is not to come. The truth is that no one knows exactly the overarching potential of the metaverse and its impact on our lives. It all depends on the power of computing and networking abilities, and the adoption rates of users, which will look different than the adoption rates of the internet of the past.

The metaverse is here. Look at how many companies are adopting “digital twins,” or a virtual representation of a physical object, person, or place that is created using real-time data and advanced simulation models to provide a comprehensive, digital view of a real-world process.

Metaverse adoption will look different than the past adoption rates of Web 1.0 and 2.0, Although still in its nascent phase, the metaverse will help us to connect with people from all over the world in a more meaningful way. The metaverse can help us to be more productive and fulfilled in our personal lives.



B. AKHILESH
II YR CSM - B

Think??🤔

"I am a technology that enables AI systems to see and interpret visual information, much like human vision. What am I?"

Hyper Automation

Though many of you would have already known about Hyper automation as it is currently the talk of the town across the tech world, especially after the global pandemic situation when automation has become the only savior for various businesses. It is basically concerned with the utilization of advanced technologies like Artificial Intelligence, Machine Learning, Robotic Process Automation, Advanced Analytics, Business Process Management, etc. for automation purposes. However, if you're considering it as another term for 'automation' then wait...unlike automation, hyper-automation describes the level of automation too along with defining the automating tasks and processes.

Hyper automation will surely become a most-to-go tech trend for businesses in the coming years for achieving optimal and efficient streamlined work processes. It holds the potential to leverage businesses with some remarkable features such as automated processes, greater productivity, greater compliance & reduced risk, accurate insights, and much more. As a matter of fact Though many of you would have already known about Hyper automation as it is currently the talk of the town across the tech world, especially after the global pandemic situation when automation has become the only savior for various businesses.

It is basically concerned with the utilization of advanced technologies like Artificial Intelligence, Machine Learning, Robotic Process Automation, Advanced Analytics, Business Process Management, etc. for automation purposes. However, if you're considering it as another term for 'automation' then wait... unlike automation, hyper-automation describes the level of automation too along with defining the automating tasks and processes Hyper automation will surely become a most-to-go tech trend for businesses in the coming years for achieving optimal and efficient streamlined work processes.



B. Lokesh
II YR CSM-B

Infared Death Ray

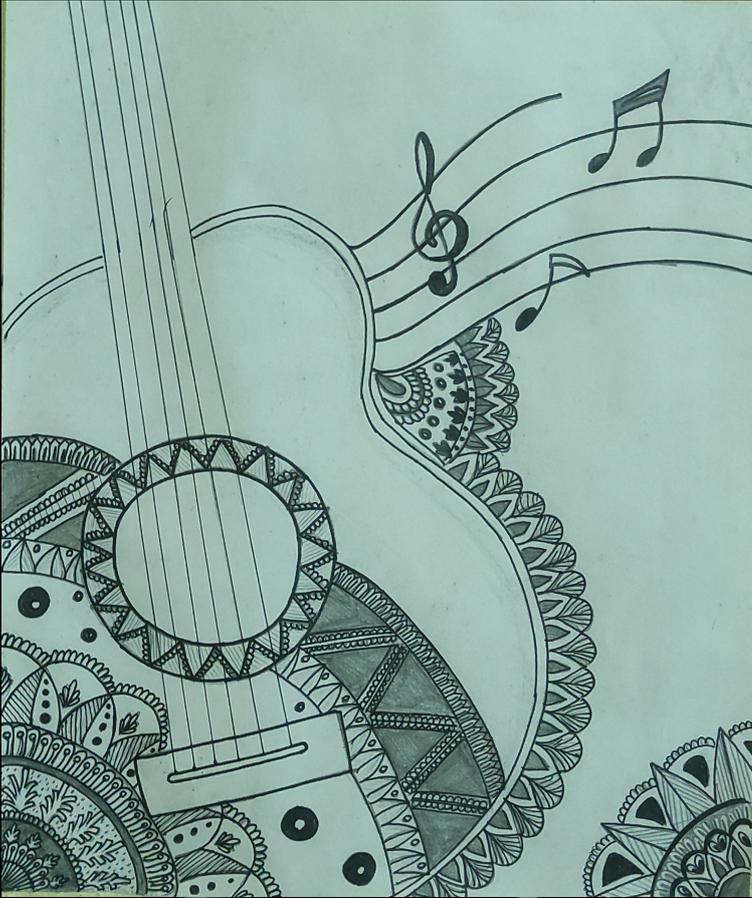
The death ray or death beam was a theoretical particle beam or electromagnetic weapon first theorized around the 1920s and 1930s. Around that time, notable inventors such as Guglielmo Marconi, Nikola Tesla, Harry Grindell Matthews, Edwin R. Scott, Erich Graichen and others claimed to have invented it independently. In 1957, the National Inventors Council was still issuing lists of needed military inventions that included a death ray.

While based in fiction, research into energy-based weapons inspired by past speculation has contributed to real-life weapons in use by modern militaries sometimes called a sort of "death ray", such as the United States Navy and its Laser Weapon System (LaWS) deployed in mid-2014. Such armaments are technically known as directed-energy weapons.

The concept of a death ray has fueled science fiction stories at least as early as Aleksey Nikolayevich Tolstoy's 1927 novel *The Garin Death Ray*. Later science fiction introduced the concept of the handheld raygun used by fictional characters such as Flash Gordon. In Alfred Noyes' 1940 novel *The Last Man* (US title: *No Other Man*), a death ray developed by a German scientist named Mardok is unleashed in a global war and almost wipes out the human race. Similar weapons are found in spy-fi films such as *Murderers' Row* and George Lucas's science-fiction saga *Star Wars*.



Vamsi
II YR CSM-A



RAKSHITHA
II YR CSM- B



Sai Rajeev
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