Department of
COMPUTER SCIENCE AND ENGINEERING

STUDENTTECHNICAL
MAGAZINE

ACADEMICYEAR: **2022-2023**

MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE
(Approved by AICTE, Affiliated to JNTUK)
(An ISO9001:2008 Certified Institution)
Pulladigunta (Village), Vatticherukuru (Mandal),
Guntur-522017, Andhra Pradesh, India
Department of Computer Science and Engineering

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About CSE Department

The department is headed by Dr.G.Ramaswamy, a Senior Professor with vast teaching experience spanning nearly 22 years.

The Department of Computer Science Engineering offers a strong foundation of knowledge in problem-solving and logical thinking. It has a flexible and industry curriculum and highly qualified faculty to teach using innovative pedagogy that is very dynamic in capturing the latest trends in the industry and the job market. The emphasis will be on making the student ready to be fit for the immediate industry needs.

The Department also organizes various skill enhancement programs for improving the employability of students augmenting the curriculum and improving the skilling abilities of the student. Student-initiated clubs with CSI student chapter which are intended to generate curiosity in young minds and promoting intelligent designs are special attraction to our department. Our students undergo boot camps, coding sessions, and hackathons , which strive to be the most innovative in the world. In an increasingly competitive job market, CSE students have excellent options for a secure future

Artificial Intelligence Vs Machine Learning

Y. Kavya- 19KE1A0556 , Ch. Jashwitha- 19KE1A0524 , G. Manasa- 19KE1A0545

(Mentor: Dr .G. RAMASWAMY (CSE HOD)

What do search engines and nature have in common? Both need **artificial intelligence (AI)** to survive. While it may seem like only one of the two actually needs AI to survive, it is becoming increasingly true for the other to rely on AI to survive as well. Moreover, the use of **machine learning (ML)** accelerates the process of AI to a level humans cannot possibly undertake. So, what is the difference between AI and ML, and how will it become the cornerstone of objectives like reducing environmental impacts?

Artificial intelligence is the ability for computers to imitate cognitive human functions such as learning and problem-solving. Through AI, a computer system uses math and logic to simulate the reasoning that people use to learn from new information and make decisions.

Today, artificial intelligence is everywhere. It is used in cell phones, vehicles, social media, video games, banking, and even surveillance. AI is capable of problem-solving, reasoning, adapting, and generalized learning. AI uses speech recognition to facilitate human functions and resolve human curiosity. You can even ask many smart phones nowadays to translate spoken text and it will read it back to you in the new language.

Machine learning is when we teach computers to extract patterns from collected data and apply them to new tasks that they may not have completed before.

Take a music streaming platform, for example. Certainly, you or someone you know has searched for an artist on a music streaming platform, have found the artist, and have been recommended to a similar artist after scrolling down a bit. Shockingly, whether you know the recommended artist or not, you will notice similarities after listening to them.

The relationship between AI and ML is more interconnected instead of one Vs the other. While they are not the same, machine learning is considered a subset of AI. They both work together to make computers smarter and more effective at producing solutions

IMPACT OF 5G ON THE INTERNET OF THINGS

B. Kavya- 20KE1A0508 , Ch. Manasa- 20KE1A0510

(Mentor: K .Praveen Kumar (ASSISTANT PROFESSOR)

The prevalent cellular IOT technologies offer low-cost, low-power solutions with broad indoor and outdoor coverage, ensuring secure connectivity and easy deployment across diverse network topologies. 5G, standardized by the Third Generation Partnership Project (3GPP), integrates existing LPWAN protocols like **NB-IOT**, ensuring a smooth transition for product makers and customers. With speeds up to several gigabits per second and latency reduced to 30 milliseconds, 5G empowers precise tasks such as remote surgery and predictive maintenance across various industries. Additionally, the integration of 5G connectivity fosters innovation and scalability within businesses, effectively supporting a multitude of IOT devices while maintaining optimal performance. This scalability not only facilitates informed decision-making but also enhances operational efficiency within an interconnected environment, thereby propelling organizations towards unparalleled success in the digital Era.

It has been two years since 5G was first launched in India. The historic day of October 1, 2022, will always be remembered for the arrival of 5G in the country. So what has changed in these two years for India? Here, we won't focus on how India has progressed economically in these two years, instead, we will look at how the mobile download speeds have improved. India used to rank 119th in September 2022 in the global speed test rankings of Okla.

But in August 2024, India ranked 20th in the very same list. In fact, in April 2024, India was at the 15th rank. So **5G** speeds have definitely put India on the global map for high-speed broadband access on the go. Not only that, but the arrival of 5G has also enabled the rollout of 5G FWA (Fixed Wireless Access) services deployment issues.

DATA SCIENCE AND BIG DATA ANALYTICS

P.Uma Devi- 19KE1A0592 , R.Padma Sri- 19KE1A0599 , K.Priyanka- 19KE1A0562
(Mentor: Mrs. K. M. L. PRIYANKA (ASSISTANET PROFESSOR)

Big Data and Data Science are complementary fields. Big Data provides the foundation by collecting and storing vast amounts of information. Without this foundational layer, Data Science would lack the raw material needed for analysis.

Conversely, Data Science adds value to Big Data by analyzing and interpreting the data. The insights derived from Data Science can help businesses leverage Big Data more effectively, uncovering trends and patterns that can inform strategic decisions.

For instance, in the healthcare sector, Big Data technologies can aggregate patient data from various sources, including electronic health records, wearable devices, and genomic databases. Data Science can then analyze this data to predict disease outbreaks, personalize treatment plans, and improve patient outcomes.

In summary, while Big Data and Data Science are distinct fields, they are interdependent and collectively crucial for harnessing the full potential of data. Big Data focuses on managing and processing large datasets, whereas Data Science aims to analyze this data and derive actionable insights. Together, they enable organizations to make data-driven decisions, innovate, and stay competitive in a rapidly changing technological landscape.

Understanding the differences between Big Data and Data Science, along with their complementary nature, is essential for professionals and businesses aiming to thrive in the era of big data analytics. As the volume and complexity of data continue to grow, the synergy between **Big Data and Data Science will become increasingly vital in unlocking the transformative power**

INTERNET OF THINGS (IOT)

K.Lakshmi Pravallika- 19KE1A0565 , M.Susmitha- 19KE1A0575

(MENTOR: MS. Y.SARASWATHI)

The term IOT, or Internet of Things, refers to the collective network of connected devices and the technology that facilitates communication between devices and the cloud, as well as between the devices themselves. Thanks to the advent of inexpensive computer chips and high bandwidth telecommunication, we now have billions of devices connected to the internet. This means everyday devices like toothbrushes, vacuums, cars, and machines can use sensors to collect data and respond intelligently to users.

The Internet of Things integrates everyday "things" with the internet. Computer Engineers have been adding sensors and processors to everyday objects since the 90s. However, progress was initially slow because the chips were big and bulky. Low power computer chips called RFID tags were first used to track expensive equipment. As computing devices shrank in size, these chips also became smaller, faster, and smarter over time.

The cost of integrating computing power into small objects has now dropped considerably. For example, you can add connectivity with Alexa voice services capabilities to MCUs with less than 1MB embedded RAM, such as for light switches. A whole industry has sprung up with a focus on filling our homes, businesses, and offices with IOT devices. These smart objects can automatically transmit data to and from the Internet. All these "invisible computing devices" and the technology associated with them are collectively referred to as the Internet of Thing

Art By: NAKKA DIVYA
22KE1A0560
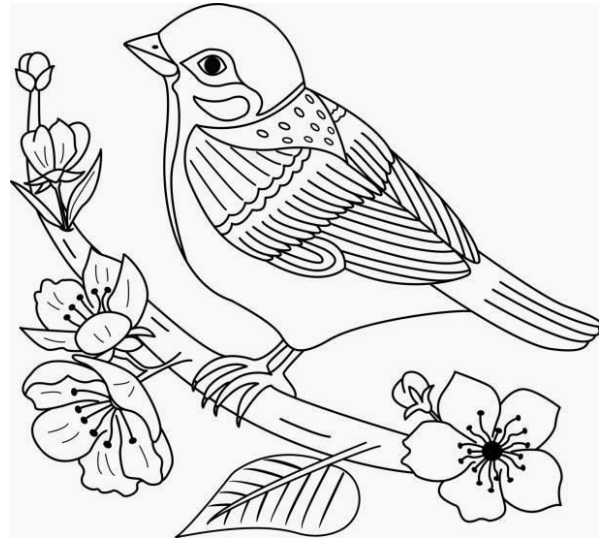
"If we hold onto our wounds in an area of life then we hold back the growth of wisdom in that area too."

By:
GARLAPATI.LIKHITHA
22KE1AO559

"A garden emerges from tending the outer world; forgiveness emerges from tending our inner world.

By:
DAVULURI .KETHURA
22KE1A0552

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