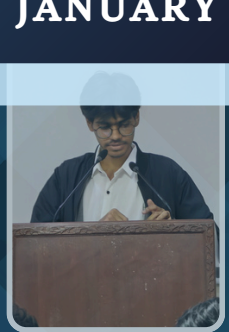
A MILESTONE ON EVERY PAGE -
WELCOME TO THE 10TH EDITION

CSI

BULLETIN

EDITION X

JANUARY 2025



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CSIXHACK4SDG IDEATHON

~Mohammadi Fatima

The Computer Society of India (CSI) MJCET proudly conducted the **CSIxHACK4SDG** Ideathon on October 5, 2024, marking the kickoff of our 2024-2025 academic year. Under the mentorship of Prof. Md. Zainuddin Naveed, this dynamic event aimed to inspire innovation and collaborative problem-solving among students while focusing on solutions that align with the Sustainable Development Goals (SDGs).

We witnessed an impressive gathering of 48 teams, each presenting a wide array of innovative ideas. The teams were divided into two evaluation panels led by distinguished experts: Panel 1 included Syed Maaz Ahmed, Syed Zohaib Abdul Khader, Mehveen Fatima, and Riyazuddin, while Panel 2 comprised Mohammed Ali Dashti, Mohammed Basheeruddin Bilal, and Syed Omer. Each team had 5-6 minutes to present their innovative solutions, and the panels engaged critically with them, selecting five teams from each panel to advance to the next round. This interactive format fostered collaboration and constructive feedback among participants and judges.

From the initial 48 teams, judges shortlisted 10 based on their presentations. Ultimately, 7 teams were selected to represent CSI MJCET at the Indian Institute of Technology Hyderabad (IITH) on October 26, 2024. The shortlisted teams included:

- **FETCHERS**
- **CODE_BLOODED**
- **CODE MATRIX**
- **TECH GEEKS**
- **VISION CIRCLE**
- **BYTE KNIGHTS**
- **BIG "OOF" NOTATIONS**

We are proud to announce that on October 26-27, 2024, at the IITH Ideathon, the team **Big "Oof" Notations** achieved 2nd place, showcasing outstanding innovation and creativity. Their project, the **Anonymous Crime Reporting System,** empowers individuals to report crimes safely and anonymously. Leveraging blockchain technology, the system ensures that each report is immutable and transparent, while anonymized NFTs protect whistleblowers' identities. This initiative promotes a culture of integrity and accountability, A cause we are honored to support.

The **CSIxHACK4SDG Ideathon** marked a successful start to the **CSI MJCET** academic year, fostering a spirit of innovation and teamwork. It encouraged students to think critically about sustainable development. The enthusiasm displayed by both participants and judges was commendable, setting a positive tone for future events. The teams proudly represented **MJCET** at IITH, bringing honor to the institution and reinforcing its reputation as a hub of talent and creativity.

Additionally, **Team Byte Knights** received consolation certificates for their impressive contributions. This exciting 24-hour ideathon provided the qualified teams with the opportunity to interact with students from different colleges, making it a valuable networking event filled with amazing experiences and significant learning opportunities.

DEV EXPEDITION! EXPLORING SDLC INSIGHTS AT MICROSOFT

Amina Hasanaath

On November 2, 2024, the Computer Society of India (CSI) chapter at MJCET hosted its third great event titled Dev Expedition: Exploring SDLC at Microsoft, offering more than 200 students a valuable opportunity to immerse themselves in the practical aspects of the Software Development Life Cycle (SDLC). Held at Microsoft's campus, this unique event aimed to bridge the gap between academic learning and industry practices, presenting students with insights from experienced professionals and mentors.

With careful planning and support, the event was managed smoothly from start to finish under the guidance of Md. Zainuddin Naveed, meticulously coordinated event logistics and guided the CSI team throughout. The CSE Department at MJCET lent enthusiastic support to the initiative, recognizing the importance of industry engagement for students' professional growth. Principal Dr. Mahipal Singh Rawat and prominent CSE faculty attended to highlight the college's commitment to promoting hands-on learning experiences that prepare students for real-world challenges.

The day began with students gathering for registration, where a streamlined color-coded wristband system simplified attendance management and group organization. Following registration, participants enjoyed a breakfast session that allowed for early networking in a relaxed setting. After breakfast, a group photo session took place on campus, capturing the enthusiasm and collective spirit of the participants. The principal, HOD of the CSE Department, and key faculty members formally sent off the attendees, marking an encouraging start to their journey. At around 10:00 a.m., the students arrived at Microsoft's campus, where they proceeded through security protocols and received visitor badges, offering a firsthand experience of corporate professionalism and security standards.

Upon arrival, the CSI team guided students to the designated hall, where they were warmly welcomed by Taufeeq Noamaan, Chief Coordinator of CSI-MJCET and GitHub Campus Expert, who delivered an inspiring opening address. His remarks underscored the importance of resilience, dedication, and passion in pursuing a career in technology, setting an encouraging tone for the day's proceedings. With support from GitHub as a major sponsor, the event was well-resourced, enabling students to engage deeply with industry-standard tools for version control, project management, and collaboration.

The main event featured a series of sessions led by distinguished professionals who shared valuable knowledge across various technology domains. Shahbaaz Khan, a successful game developer and MJCET alumnus, delivered an in-depth talk on game development, exploring the journey from concept ideation to final release. He highlighted essential stages such as brainstorming, refining concepts, and iterative prototyping, giving students a comprehensive understanding of the creative and technical demands of game design. His session was informative and motivational, as he encouraged students to harness both creativity and technical skills in their work. Following this, Mohammed Nizamuddin Farhaan, an experienced Software Engineer, provided insights into scalable software practices based on his work at companies like Google and Amazon. His presentation emphasized the importance of thoughtful design, load balancing, and scalability strategies, especially in high-demand applications, helping students grasp the core principles of building robust software systems.

Continuing the event, Prashant Nandipati, a seasoned DevOps Engineer, introduced students to modern DevOps practices that have revolutionized traditional software development. He explained the alignment of DevOps with Agile methodologies, focusing on CI/CD pipelines and the significance of containerization in streamlined development processes. His talk illustrated how such practices enhance cross-functional collaboration, improve responsiveness to changes, and ultimately drive efficiency in project delivery. Rounding off the technical sessions, Lekha Grace, a proficient DevOps professional specializing in Splunk, presented the importance of monitoring tools in ensuring system reliability. By detailing the metrics and functionalities provided by tools like Splunk, she demonstrated how proactive monitoring and real-time data analysis play a vital role in maintaining high system performance and providing seamless user experiences.

The event concluded with a formal closing ceremony where each speaker was recognized with a memento, symbolizing CSI's appreciation for their contributions. Additionally, branded items from GitHub were distributed to attendees as keepsakes, commemorating their participation in the Dev Expedition. Rania Mehreen Farooq, the Chief Coordinator of CSI, delivered the vote of thanks, expressing gratitude to the faculty, volunteers, and speakers for their dedicated efforts in making the event a success. Her remarks highlighted the importance of continuous learning and adaptability in the fast-evolving tech landscape, encouraging students to make the most of similar opportunities in the future. In conclusion, Dev Expedition provided attendees with enriching industry insights, valuable networking, and practical knowledge, leaving them well-prepared and inspired to advance in their technology careers.

MIND MEETS MACHINE: A PROMPTING COMPETITION

Mohammmed Omer Waheed Khan

On October 25, 2024, the Computer Society of India (CSI) MJCET held its much-anticipated “Mind Meets Machine” event in the Seminar Hall, Block 4, at Muffakham Jah College of Engineering and Technology (MJCET). Building on the success of the recent CSIxHACK4SDG Ideathon, this was the second major event of the academic year. The gathering brought together over 80 students from various disciplines, forming 31 spirited teams, each eager to showcase their technical know-how and creative problem-solving.

PARTICIPATION AND EVENT FORMAT

The event, exquisitely organized by the Associate Chief Coordinators of CSI, unfolded in three rounds that challenged participants to draw on their technical skills, creativity, and a solid understanding of technology. The atmosphere buzzed with excitement as participants geared up for a full day of engaging activities.

Event Highlights and Impact

"Mind Meets Machine" wasn't just a competition; it was an energetic celebration of technology and innovation. By bringing together students from different academic backgrounds, the event cultivated a shared curiosity and passion for tech. Each round pushed participants to expand their knowledge, exercise creativity, and refine their skills in a hands-on, supportive environment. With "Mind Meets Machine," CSI MJCET continues its mission to nurture tech talent and empower students to become the innovators of tomorrow.

1 ROUND

Tech Trivia Quiz

The competition kicked off with a Tech Trivia Quiz led by Muhammad Affan Asif. This first round tested general tech knowledge with questions spanning foundational concepts to recent advancements. Students from diverse fields, not just Computer Science, joined in, making it a lively and informative session. Quiz Masters—including Omer, Zaina, Tauseef, and Affan—ensured a lively, informative atmosphere. Following the quiz, there was an insightful discussion on Prompt Engineering and Large Language Models (LLMs) led by tech captain Omer, equipping students with skills useful in later rounds.
Following a short break, Round 1 winners were announced. Ten teams advanced to the next round, each demonstrating impressive knowledge and passion for technology.

LLM Image Generation Challenge

In Round 2, guided by Muhammad Tauseef Banu and judged by Omer and Zaina, the remaining 10 teams paired up to take on the LLM Image Generation Challenge. This round required participants to choose a LLM model and use it to create images based on given prompts, pushing them to dive into the world of AI-driven creativity. Volunteers were present throughout to ensure fair play and prevent any malpractice, contributing to a smoothly run challenge. It was a unique exercise in pro

2 ROUND

3 ROUND

Round 3: Surprise Game Development Challenge

The third and final round added an element of surprise. The last five teams were tasked with creating a game using only two prompts and the LLM model of their choice. This round, once again led by Muhammad Affan Asif, was a test of adaptability, teamwork, and innovation. Participants had to think on their feet, demonstrating both their LLM knowledge and their knack for game design

Acknowledgments
The event concluded with a vote of thanks by Muhammad Affan Asif, who expressed his appreciation to the volunteers, participants, and organizing team for making "Mind Meets Machine" a success. He praised the enthusiasm of all participants and congratulated the winners for their hard-earned victories.

Winners and Recognition
After a full day of competition, the top three teams were announced and awarded cash prizes:

1. **Data Pirates** – First Place
2. **AI Masters** – Second Place
3. **Haaza** – Third Place

As a special reward, the winning team, Data Pirates, earned an invitation to CSI MJCET's prestigious Microsoft event on November 2, 2024, with free admission. These prizes were a testament to the participants' dedication and their ability to excel under pressure.

CSI EXCELS AT SIH 2024

Mohammed Affan Asif & Mariya Hussain

TEAM BYTEKNIGHTS

Our team, BYTEKNIGHTS, had the privilege of participating in the Smart India Hackathon (SIH) 2024, hosted by IIT Guwahati from 10th to 13th December 2024. This report encapsulates our thrilling journey, from taking our first steps on the prestigious campus to achieving a proud victory.

PROBLEM STATEMENT

Our team chose to tackle Problem Statement 1682, titled "Centralized Automated Solution for Price Estimation & Reasonability" This challenge was aimed at addressing inefficiencies and a lack of transparency in government procurement processes, especially for uncommon products and services. The problem highlighted delays caused by unreliable data and the absence of an automated system for benchmarking prices.
We proposed a solution centered around creating BIDEX - A Centralized Price Automation and Reasonability Platform. This web-based tool integrates advanced data analysis and automation to ensure accurate price estimation, enhanced transparency, and a user-friendly interface for officers involved in procurement.

TEAM BYTEKNIGHTS

- HABEEB SALEH (TEAM LEAD)
- SYED KASHIF MUJTABA
- ABDUR RAAFE AKHEEL
- MOHAMMED ABRAAR
- ZAINA FATIMA ABEDI
- MARIYA HUSSAIN

THE GRIND

The hackathon began with a bang after an inspiring inaugural ceremony on the morning of 11th December. Energized by the speeches, we delved straight into brainstorming and outlining our approach. Dividing tasks among team members, we focused on building core functionalities such as data scraping, price analysis, and developing a visually intuitive user interface.

We faced multiple challenges, from managing large datasets to integrating Selenium-based automation into our platform. The long hours, late-night coding marathons, and repeated debugging sessions tested our resolve. The snacks and energy drinks provided by the organizers gave us much-needed boosts, but what truly kept us going was the synergy within our team. Everyone played their part with determination, taking on roles ranging from back-end development to UI/UX design.

By the second day, we had made significant progress. Despite the exhaustion, our spirits remained high, buoyed by the encouragement from our mentors and the friendly competition with other teams. We knew that every line of code and every innovative idea we incorporated brought us closer to solving the real-world challenges outlined in our problem statement.

The Victory Moment
On the final day, we worked tirelessly to ensure that all components of our solution were seamlessly integrated into one coherent platform. With just minutes left before the submission deadline, we added the final touches and geared up for the presentation.

Presenting to a panel of esteemed judges was nerve-wracking but exhilarating. We demonstrated how Bidex could transform procurement processes by automating price estimation, offering comprehensive vendor comparisons, and generating detailed data visualizations.
The announcement of results was the most awaited moment. When the name BYTEKNIGHTS was declared as the winner for Problem Statement 1682, a wave of joy and relief swept over us. It was a surreal moment, filled with cheers, laughter, and countless photo sessions. The pride in our accomplishment was immeasurable, and sharing the news with our families and friends made it even more special.

TEAM HEXTECH

For two years, we aspired to make it to the Grand Finale of the Smart India Hackathon (SIH). On 21st November 2024, this dream became a reality when we received the email confirming our selection with Problem Statement SIH1752. That moment felt surreal, a culmination of endless effort, persistence, and determination.

Challenging the Odds
As third-year students, we faced skepticism. No team from MJCET had ever won SIH in its seven-year history. But we saw this as an opportunity to rise above doubts and prove our capabilities. The excitement of making it to the Grand Finale at KCG College of Technology, Chennai, was unparalleled. Despite the tight timeline, we fine-tuned our project and prepared ourselves mentally for the challenge.

A Test of Skill and Resilience

The integration process was gruelling. We worked tirelessly through the night, battling technical issues and exhaustion. To lighten our spirits, the college arranged entertainment, including dances and choir performances.
Finally, at 6 AM, after a sleepless night, we managed to fix the integration. Our joy was immeasurable, but the next round of judging at 8 AM brought mixed reactions. Although the judges acknowledged our hard work, they challenged us to elevate our project further.

TEAM HEXTECH

- **MUHAMMAD AFFAN ASIF (TEAM LEAD)**
- **IBRAHEEM FAROOQ**
- **SYED IMRAN**
- **SYED KAREEM FAUZAAN**
- **MOHAMMADI FATIMA**
- **AMEENA BEGUM**

The Turning Point

By Round 3 at 4 PM, we were ready to unveil the ace up our sleeve an IP camera integrated with our ML model for a live demonstration. Despite initial hurdles with the camera setup, we persisted.
When the judges arrived, they were visibly excited. They asked us to skip explanations and proceed straight to the demonstration. As we showcased the fully integrated prototype and live CCTV camera feed, the judges were awestruck. Though they tried to mask their reactions, it was evident that we had left a lasting impression.

The Moment of Triumph

After 36 hours of relentless effort, the judging was finally over. At 8 PM, following an hour of speeches, the results were announced. When they declared Team HexTech as the winner of SIH 2024, emotions overflowed. Tears streamed down my face as I called my mother to share the news. The joy of becoming the first team from MJCET to win SIH was indescribable. Standing on stage, holding the trophy and a check for ₹1,00,000, felt like a dream come true. Our journey wasn't just about winning a competition; it was a testament to resilience, teamwork, and belief. Team HexTech's story is one of breaking barriers, silencing doubts, and showcasing the power of unity and determination. It's a journey that will continue to inspire future innovators and leave a lasting legacy for MJCET.

Acknowledgments
Both the winning teams extend their heartfelt gratitude to Zainuddin Naveed Sir and Ferhath Sir for their unwavering support, mentorship, and belief in our abilities. Their guidance throughout the competition was instrumental in our success. We are equally grateful to our team members, whose dedication, collaboration, and persistence made this achievement possible. Together, we turned challenges into opportunities and ideas into reality.

THE EVOLUTION OF PROGRAMMING LANGUAGES

~Ruqayyah Zaheeruddin

Imagine stepping into the shoes of a programmer in the 1940s. Your job involves instructing a computer, but there are no keyboards, no screens, and definitely no user-friendly code editors. Instead, you're flipping switches, connecting wires, or punching holes into cards to write programs in binary. Fast forward to today, where a few lines in Python can control a robot, predict stock prices, or analyze millions of tweets.

How did we make such an incredible leap? Let's take a journey through the evolution of programming languages—from the cryptic assembly codes to the elegant simplicity of Python.

Assembly: Where It All Began

In the early days, programming was a direct conversation with the machine, using nothing but 1s and 0s—binary code. It was like trying to write poetry with only two words in your vocabulary. Then came assembly language, which replaced binary with symbolic instructions like MOV and ADD. It was still complex, but at least it felt like speaking in shorthand instead of deciphering hieroglyphs. Assembly was the ultimate micromanager—every single operation had to be explicitly spelled out. One small error, and the entire system could crash. But despite its challenges, it laid the groundwork for all programming languages to come.

High-Level Languages: Fortran and COBOL

As computers grew more powerful, so did the need for languages that humans could actually read and understand. Enter Fortran in 1957, the first high-level programming language designed for scientists and engineers. It allowed users to write equations directly, transforming computers into indispensable research tools.

Meanwhile, businesses found their hero in COBOL (1959). With syntax resembling English sentences, COBOL made it easier for organizations to handle data processing. It was verbose—writing a simple program often felt like drafting an essay—but its readability made it incredibly effective for its purpose..

Structured Programming: The Rise of C

The 1970s brought the structured programming revolution, emphasizing clarity and logical flow. At the forefront was C (1972),C quickly gained traction for being a language that was not only powerful but also compact and versatile. It offered developers unprecedented control and efficiency. It became a universal tool for developers, used to create everything from operating systems to video games.The legacy of C continues to this day.C struck the perfect balance: low-level enough to interact with hardware, but high-level enough to save programmers from the nightmares of assembly. Its impact is profound, influencing languages like C++, Java, and even Python.

Object-Oriented Programming: A Smarter Approach

By the 1980s, software projects were growing larger and more complex. Developers needed better ways to organize and manage their code. Enter Object-Oriented Programming (OOP). This paradigm introduced the concept of "objects," allowing developers to model real-world entities in their code.

Languages like Smalltalk and C++ embraced OOP, making it easier to write scalable and reusable code. Imagine programming a car simulation: instead of juggling endless lines of procedures, you could create a "car" object that knows how to drive, stop, or honk.

The Internet Boom: Java and JavaScript

The 1990s ushered in the internet era, and programming took a web-centric turn. Java became the superstar with its "write once, run anywhere" philosophy, enabling cross-platform applications.

Meanwhile, JavaScript revolutionized websites by making them dynamic and interactive. It turned the web from a collection of static pages into the engaging, multimedia-rich experience we enjoy today. Without JavaScript, there would be no scrolling feeds, interactive maps, or online shopping carts.

Python: Programming for Everyone

And then came Python, a language that transformed how people thought about programming. Created in 1991 by Guido van Rossum, Python prioritized simplicity and readability. Its philosophy, "Simple is better than complex," resonated with developers, making it accessible to beginners while remaining powerful for experts.

Python is like a Swiss Army knife—it can handle anything. Need to analyze data? Build a website? Train an AI model? Python's got you covered. Its intuitive syntax feels natural, almost like writing plain English, and its vast ecosystem of libraries ensures it can tackle any task.

Why Programming Languages Evolve

Each new programming language arises to address the limitations of its predecessors. The journey from assembly to Python reflects humanity's drive to make technology more efficient, inclusive, and versatile. Today, new languages are emerging to handle cutting-edge fields like quantum computing, blockchain, and artificial intelligence. Furthermore, as developers demand faster development cycles and enhanced performance, languages are continuously being refined and optimized to meet these needs. From flipping switches to writing Python scripts, each step represents a leap toward making technology more accessible and powerful. Additionally, the rise of community-driven development fosters collaboration, allowing programmers to contribute to and shape the evolution of languages, ensuring they remain relevant and innovative.

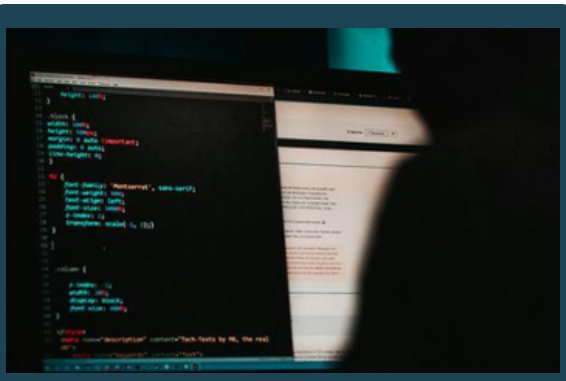
WEB/APP DEVELOPMENT: A SKILL FOR SUCCESS OR A PASSING TREND?

-Mohammadi Fatima

In today's digital age, students are frequently told to “learn to code,” as if it’s the academic equivalent of being told to eat vegetables- essential for growth. But does mastering web and app development give students an edge in their careers, or is it just another fleeting trend, like wearing socks with sandals? Let’s roll up our sleeves and debug this dilemma.

WHY WEB/APP DEVELOPMENT IS MORE THAN JUST A TREND

Think of web and app development as the ultimate Swiss Army knife of skills—versatile, handy, and occasionally, a bit confusing when trying to figure out which tool to use. Whether you're eyeing a career in marketing, design, or even engineering, knowing the basics of coding can enhance your adaptability and creativity. Here’s why it’s more than just a passing trend:



The Universal Language of Tomorrow: Coding is becoming as essential as knowing English—only, instead of awkward small talk about the weather, you’re deciphering the latest tech jargon. It’s the secret handshake that opens doors across a multitude of industries. Even a little programming can set you apart in a crowded job market, like wearing a neon jacket at a black-tie event.

Fuelling Innovation and Entrepreneurship: In a country where the startup culture is booming, coding skills empower students to innovate. That college project could turn into the next big app! Why be a consumer when you can be a creator? After all, who wouldn’t want to say they built the next TikTok in their dorm room—complete with late-night snack-fuelled brainstorming sessions?

In-Demand Across Industries: From IT giants to FMCG brands, everyone is looking for tech-savvy professionals. Understanding web app development makes you a valuable asset, ready to adapt to various roles and responsibilities-like being the friend who can fix everyone’s phone and still manage to look stylish while doing it.

THE "DO YOU NEED THIS?" ARGUMENT

While the benefits of coding are clear, not every student needs to become a full-fledged developer. Thanks to no-code platforms, anyone can whip up a website or app without breaking a sweat. Here's why some view web/app development as more a trend than a necessity:

No-Code Revolution: Tools like WordPress and Wix are like the masala in your biryani—essential but not always made from scratch. These platforms let you build digital products without diving deep into code, making coding seem less crucial. It's like having a microwave: sure, you can make a gourmet meal, but sometimes, you just want popcorn.

Limited Time, Unlimited Skills: With so many subjects vying for attention, students must prioritize wisely. Not everyone wants to juggle coding classes on top of engineering or business studies. Sometimes, it's best to stick to what directly enhances your career—unless you enjoy living on caffeine and deadlines, of course.

A WORTHY MIDDLE GROUND: DEVELOPMENT AS DIGITAL LITERACY

For today's students, web/app development may not be an absolute necessity, but it's definitely not a waste of time. It offers a blend of skills that combine creativity, innovation, and problem-solving—a toolkit for thriving in a connected future. Essential or trendy, the choice is yours, but one thing's certain: a little coding knowledge could unlock a world of opportunity. So, are you ready to dive in and make your mark, or will you be waiting for the next big thing to come along?

Adaptability: As technology evolves, so does the job market. Development skills keep students flexible and ready for whatever twists and turns lie ahead—much like your daily commute through traffic, where you must adapt to unexpected roadblocks (or, you know, those lovely construction delays).

Empowered DIGITAL CITIZEN: Understanding how digital platforms work allows students to engage with technology more meaningfully, helping them make informed choices in their personal and professional lives—because, let's face it, knowing how to avoid clicking on those "Congratulations, you've won a free iPhone!" ads are a life skill.

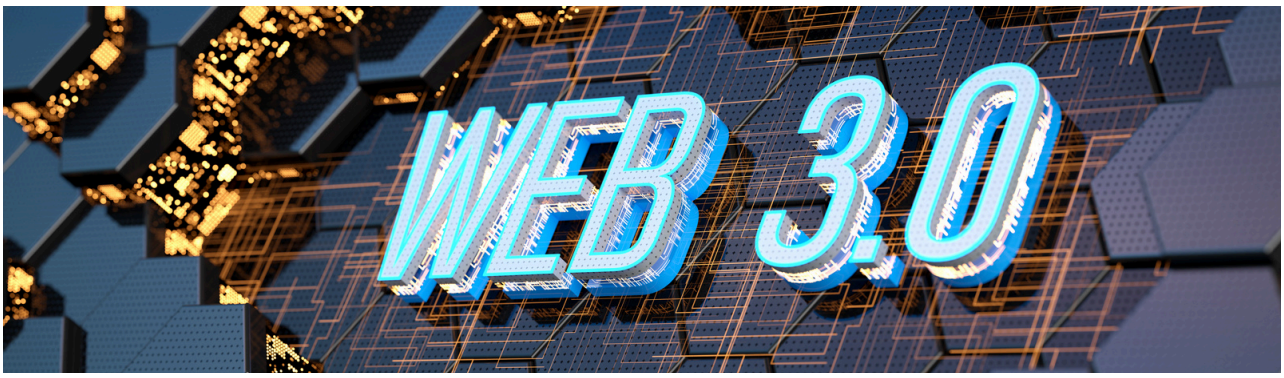
FINAL TAKE: TREND OR ESSENTIAL? YOU DECIDE

Beyond mere coding, development fosters critical thinking and problem-solving skills, helping students navigate the digital landscape with confidence. Here are some key takeaways that make learning development worthwhile.

Problem-Solving Mindset: Coding teaches you to approach problems logically—a skill that applies to everything from academics to daily life. Just like figuring out how to fix that stubborn Wi-Fi, which is a feat akin to solving a Rubik's cube blindfolded!

Introduction to Web3: What Is It and Why Does It Matter?

~Mohammadi Fatima



Imagine the internet is like a Bollywood trilogy. Web1 was the '70s classic... simple, read-only websites with no dancing or singing. Web2 came in like a full masala blockbuster, adding social media, interactivity, and, unfortunately, trolls. Enter Web3, the independent film of the series, built on blockchain, with decentralization as its star actor.

n simpler terms, Web3 gives the power back to the users, it's like hosting your own cricket league in the gully instead of just being a spectator at a stadium: direct involvement in every ball and boundary.

No landlord (read: big tech companies) dictating terms. Instead, it's powered by blockchain, the same technology behind cryptocurrencies like Bitcoin.

WHY SHOULD YOU CARE?

Let's break it down:

1. True Ownership of Data
Picture this: You post a heartfelt biryani recipe online, and suddenly, the platform owns it. Annoying, right? Web3 changes the game by allowing creators to keep ownership of their content. It's like serving biryani at your own dawat, not someone else's shaadi.

2. Decentralization
Instead of a single company (hello, Big Tech) controlling everything, Web3 uses distributed networks. Think of it as a roadside chai setup versus a multinational coffee chain: personal, authentic, and no corporate jargon.

3. Transparency and Security
With blockchain's public ledger, shady dealings are harder to hide. It's like asking for the bill at a dhaba, you see exactly what you're paying for, no hidden GST surprises.

4. Empowering the Unbanked
Cryptocurrencies, a part of Web3, can give access to financial systems for those without traditional banking. Imagine everyone in rural India being able to accept digital payments without needing a bank account.

Web3 in Action
While Web3 may sound like an IITian's dream project, it's already making waves:

- NFTs: Those funky digital art pieces that people buy for lakhs? They're powered by Web3. Yes, even that pixelated cat GIF has a home in this ecosystem.
- DeFi (Decentralized Finance): Imagine a world where you can take a loan without dealing with grumpy bank officials or endless paperwork.

And don't forget DAOs (Decentralized Autonomous Organizations)—groups run on code, not hierarchy. Perfect for those who hate office politics but love democracy.

The "Do We Really Need This?" Argument
Web3 skeptics aren't shy about raising their eyebrows:

- Complexity: Blockchain? Smart contracts? It sounds like a syllabus for an exam no one wants to take.
-
- Energy Concerns: Some blockchain systems consume electricity like a wedding hall during Indian functions.

But then again, every revolution has its teething problems. Remember the time when mobile data packs were expensive, and now we're binge-watching Netflix in 4K?

FINAL THOUGHTS: EMBRACE OR IGNORE?

Web3 might not replace Web2 overnight, but it's the digital equivalent of moving from a Maruti 800 to an EV. It's not just a trend; it's a peek into how our online interactions will evolve.

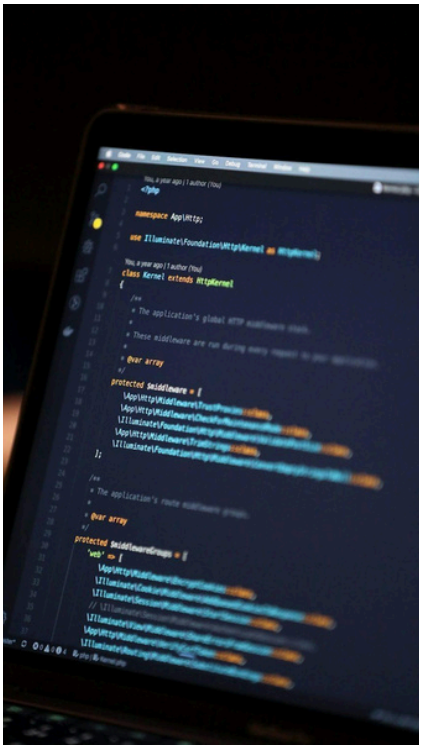
Whether you're a chai lover or a cappuccino connoisseur, Web3 has something for everyone. So, are you ready to switch gears and join the Web3 journey, or will you sit back and wait for the interval? As always, the choice is yours. But remember, the internet waits for no one :) not even for that perfect selfie.

OPEN SOURCE FOR BEGINNERS: HOW YOU CAN GET INVOLVED

~Taufeeq Noamaan

“Welcome, future engineers! You're at the start of an exciting journey into the world of technology. You might have heard terms like "open source" floating around, and perhaps you’re a bit unsure what it all means. Let's break it down in a way that's easy to grasp.

WHAT IS OPEN SOURCE?



Imagine a recipe for a fantastic cake. In the traditional, “closed” way of doing things, the recipe is a secret, and only the creator knows how to bake that specific cake. But, what if the recipe was freely shared with everyone? That’s the essence of open source!

Open-source refers to software (or code) whose design is public. Anyone can see it, use it, modify it, and even distribute their own versions of it. This shared recipe, or code, can be improved upon by the community as a whole. It’s like a massive collaboration project, where everyone contributes to making it better.

Think of popular tools like web browsers (like Firefox) or operating systems (like Linux). Many of these are based on open-source software and this makes them free to use. This shared way of creating software promotes innovation, collaboration and helps in learning better software development methods

WHY IS OPEN SOURCE IMPORTANT?

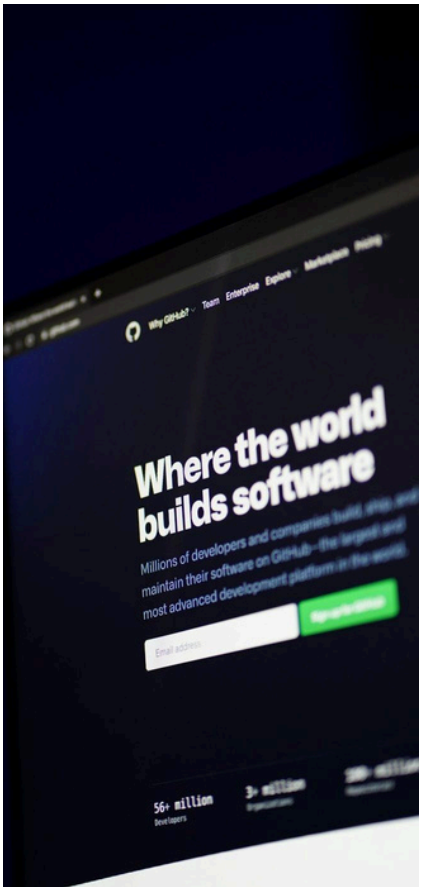
You might be thinking, why bother? Well, open source has several big benefits:

- **Learning by Doing**: Being involved in open source is one of the best ways to learn real-world programming. You'll get a chance to work on projects with more experienced developers. This provides mentorship opportunities that aren't available anywhere else!
- **Collaboration**: It teaches you how to work in a team, share your ideas, and give feedback, which is very important for any engineering job. You're not working alone on some small school project anymore!
- **Innovation**: Because anyone can contribute, you get to experience a constant wave of new ideas, which leads to constant upgrades and bug fixes on the software. Open source is a major reason why technology is moving so rapidly today.
- **Impact**: Your contribution matters, and you get a chance to directly shape the technologies of tomorrow. Your small contributions matter to many people who might depend on this code.
- **It's Free :**Because these technologies are publicly accessible and can be freely altered, it helps make sure they're available to people all over the world. It opens up avenues for tech development which otherwise wouldn't exist.

GITHUB: YOUR GATEWAY TO OPEN SOURCE

Okay, so how do you actually get involved in open source? This is where GitHub comes in.

Think of GitHub as a social media platform for programmers and coders. It's a website where people can share their code, track changes, and work collaboratively. It allows people from around the world to contribute to a single code project from their own laptops and helps keep all of the code organized and available. It is the "go to" place for any programmer and the center of the open-source community.
Here's how you'll likely use GitHub:



1. Find a Project: You can search GitHub for open-source projects that interest you. Look for projects with simple problems that could be helpful. As a first year engineering student, your ability to debug/fix code is a big skill to have.
2. Fork the Project: "Forking" basically means you create a personal copy of the project on your own GitHub account. This allows you to make changes without affecting the original project.
3. Make Changes: On your "forked" version, you can try to fix bugs or even add some minor functionality. Your code doesn't even need to be correct, the community would happily guide you in making your first open source contribution.
4. Submit a Pull Request: When you are ready to share your changes, you'll send a "pull request" to the original project. The team running the project will then review your work and either merge it with the main code or suggest more fixes.

HOW TO START :

The thought of jumping in may be intimidating, but don't worry, you don't need to be an expert. You can begin by:

- **Creating a GitHub Account:** If you don't have one, go to GitHub.com and sign up, it's free!
- **Exploring Projects:** Spend some time looking at projects on GitHub, reading descriptions, and trying out the user interfaces. Even though the code might seem complicated at first, try to figure out which open source technologies are already a part of your everyday lives.

- **Starting Small:** Don't try to take on a large project right away. Look for projects that are marked as "beginner-friendly" or have issues tagged as "good first issue". These are tasks meant for people new to Open Source, and are a good way to get introduced to how things work.
- **Ask for help:** Open-source communities love helping each other! Don't hesitate to ask if you are confused or need a little bit of help. Everyone starts somewhere!

Open source is more than just a way to develop software. It's a community, a way to collaborate, and an opportunity to learn. Don't be afraid to jump in and start exploring – it's a fantastic way to enhance your skills as future engineers and become part of a global movement that's

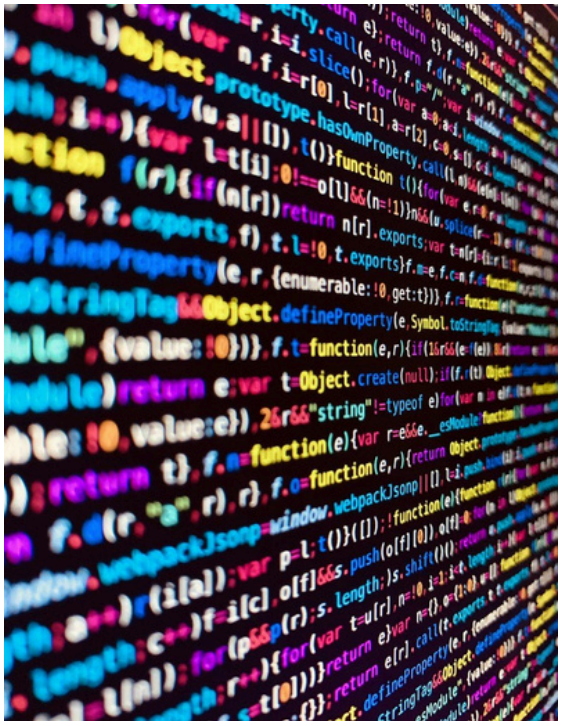
DEEP LEARNING: A COMPREHENSIVE OVERVIEW

Shakaib Ahmed Mohammed

Artificial intelligence is one of the most important technological advancements of the 21st century, and deep learning plays a key role in its development across many areas, including computer vision, natural language processing, and healthcare.

WHAT IS DEEP LEARNING?

Deep learning is a fascinating area within the broader field of machine learning, which itselfis part of artificial intelligence. Essentially, it mimics the way our brains work usingstructures called artificial neural networks. Unlike traditional machine learning methods thatoften need a lot of manual tweaking and simpler models, deep learning can automatically findpatterns in data by using multiple layers of processing. This makes it particularly powerfulfor tackling complex problems and recognizing things like images or speech.



ARCHITECTURE OF DEEP LEARNING

At the heart of deep learning is a structure known as a neural network, which can be thought of as a series of steps that help machines learn from data. Here's how it works:

- **Input Layer**: This is the starting point where the machine receives information, likeimages or sounds.
- **Hidden Layers**: These are like the middle steps where the machine figures outdifferent patterns and details from the input. Depending on the complexity, there canbe many of these hidden layers, sometimes even more than you can count!
- **Output Layer**: This is the endpoint where the machine gives back its results, such asdeciding what an image is or predicting a number.

This process helps computers learn in a way similar to how humans do, allowing them torecognize and interpret data effectively.

ACTIVATION FUNCTIONS

Activation functions are important tools in building models that can understand complexinformation. They help the model learn by adding a layer of complexity to its processing.Here are a few common types of activation functions:

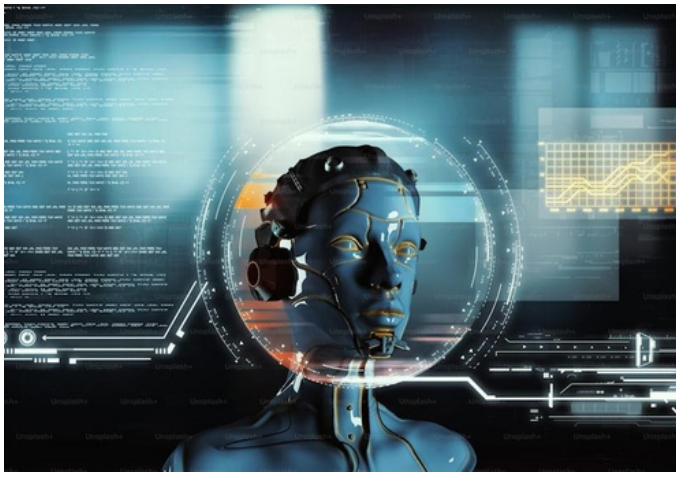
- **ReLU (Rectified Linear Unit)**: This function helps models learn better bypreventing issues that can occur when learning slows down too much.
- **Sigmoid**: This function is mainly used when the model needs to decide between twooptions, like yes or no.
- **Softmax**: This function is often used at the end of the model when there are multipleoptions to choose from, helping the model to pick the most likely one.

These functions play a crucial role in helping models make sense of and learn from data.

TRAINING DEEP LEARNING MODELS

Training a deep learning model involves the following steps:

- **Forward Propagation:** Data is transmitted over the network, and predictions are generated based on that data.
- **Loss Function:** This is a metric that measures the difference between the predicted values and the actual values.
- **Backpropagation:** In this step, the gradients of the loss function are calculated, and the weights of the network are updated using optimization algorithms such as stochastic gradient descent (SGD) or Adam.
- **Iteration:** This process is repeated over multiple epochs until the model converges.



APPLICATIONS OF DEEP LEARNING

Deep learning's potential is vast, with applications across numerous industries:

1. Understanding Computer Vision
Deep learning has greatly improved how computers can recognize and understand images.One popular method used in this field is called Convolutional Neural Networks (CNNs). Hereare a couple of ways this technology is applied:

- **Facial Recognition:** This is used in security systems and for personalizing marketingefforts, helping companies recognize customers.
- **Medical Imaging:** Deep learning helps doctors analyze medical scans like MRIs andCTs to identify diseases and make diagnoses.

2. Enhancing Natural Language Processing
Deep learning has also changed how computers understand and interpret human language.Technologies such as Recurrent Neural Networks (RNNs) and Transformers are key in thisarea. Some practical applications include:

- **Machine Translation:** Services like Google Translate use deep learning to helppeople communicate across different languages in real time.
- **entiment Analysis:** Companies can analyze online posts and reviews to gauge howcustomers feel about their products or services.

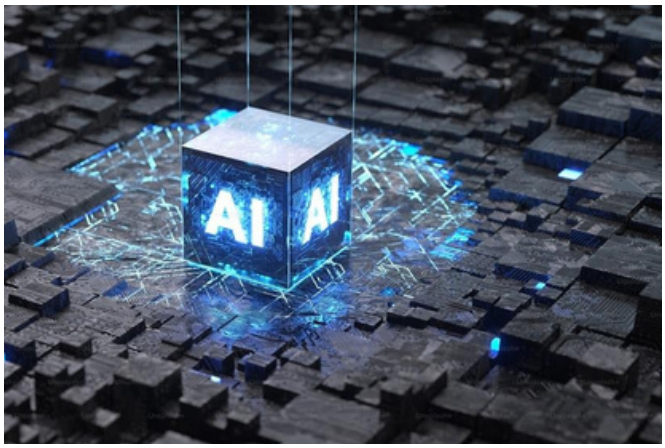
3. Advancements in Autonomous Vehicles
Deep learning plays a crucial role in self-driving cars, allowing them to quickly interpretinformation from cameras and sensors around them. This helps in important tasks likedetecting lanes, avoiding obstacles, and navigating roads safely.

4. Innovations in Healthcare
In the healthcare field, deep learning is helping to predict patient outcomes and tailortreatment plans. It's also being used to discover new medications, contributing to a morepersonalized and effective approach to healthcare, known as precision medicine.

CHALLENGES IN DEEP LEARNING

Despite its success, deep learning faces several challenges:

- **Data Requirements:** Deep learning models often require large quantities of labeleddata for training, which can be costly and time-consuming to acquire.
- **Computational Resources:** Training deep learning models can be resource-intensive,necessitating powerful GPUs and leading to significant energy consumption.
- **Interpretability:** Training deep learning models can be resource-intensive,necessitating powerful GPUs and leading to significant energy consumption.
- **Overfitting:** Deep learning models, due to their extensive parameters, are vulnerableto fitting noise in the training data without appropriate regularization.
  Effectiveregularization is essential to ensure robust generalization to new, unseen datasetsrather than merely accommodating the specific anomalies of the training set.



THE FUTURE OF DEEP LEARNING

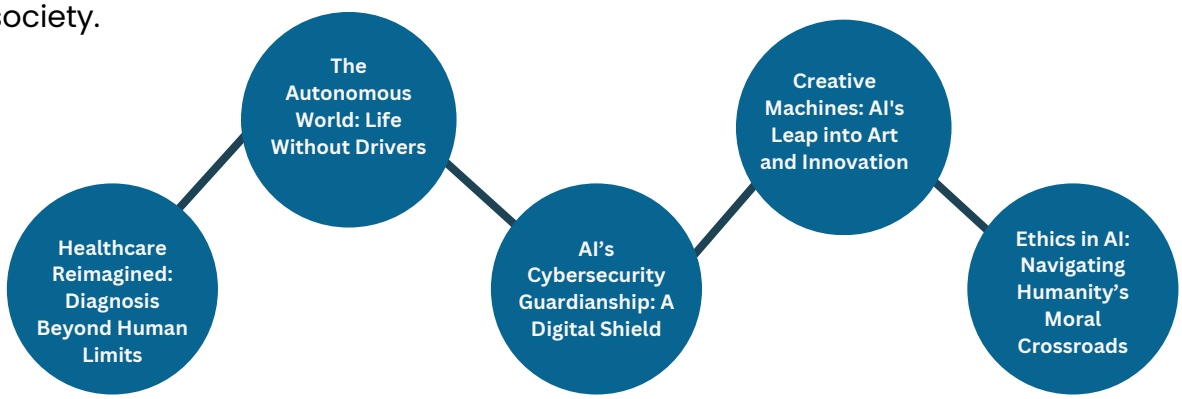
As research advances, the future of deep learning appears promising. Key areas ofdevelopment include:

- **Neural Architecture Search:** Automating the design process of neural networks toenhance both performance and efficiency.
- **Unsupervised Learning:** Developing techniques that minimize the reliance onlabeled data while still delivering robust predictive capabilities.
- **Federated Learning:** A privacy-preserving methodology that enables models to learnfrom decentralized data across multiple devices without the need to share raw data.
- **Enhanced Interpretability:** Improved techniques aimed at fostering a deeperunderstanding and trust in deep learning models, particularly in sensitive areas such ashealthcare.Overall, understanding deep learning is crucial for academics, professionals, and anyoneinterested in the frontier of technology, as it holds the key to shaping the future ofindustries worldwide.

THE FUTURE OF ARTIFICIAL INTELLIGENCE: TRANSFORMING TOMORROW

Maheeya Wajahat

Artificial Intelligence (AI) stands as one of the most transformative technologies of our time, impacting nearly every industry and reshaping how we live, work, and interact. Far beyond the early days of chatbots and virtual assistants, AI now reaches into realms once thought exclusive to human capability—healthcare, transportation, security, and even creativity. As this technology advances, the question isn't just what AI can do, but how it will change our future. With the potential to redefine our world in ways we can only begin to imagine, AI is poised to be both a powerful tool and a profound challenge for society.



1. Healthcare Reimagined: Diagnosis Beyond Human Limits:

AI is already making strides in healthcare. Systems like IBM's Watson Health analyze complex medical data to suggest personalized treatment plans. Today, AI assists doctors in detecting diseases earlier and improving the precision of surgeries. But what if AI could predict illnesses even before symptoms appear or recommend treatments tailored to our unique genetics? Could it transform healthcare into a proactive service? Researchers are exploring AI's use in mental health diagnostics, potentially identifying psychological conditions early by analyzing speech patterns and behavior.

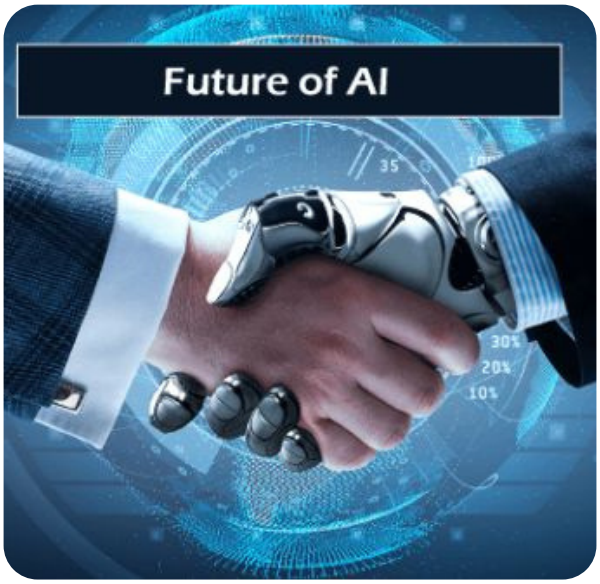
2.The Autonomous World: Life Without Drivers:

Self-driving technology is no longer just science fiction. Companies like Waymo have autonomous taxis operating in select cities, offering a glimpse into a driverless future. AI in autonomous vehicles is revolutionizing transportation, promising safer and more efficient roads. But will we trust AI to handle all driving scenarios, from highway commutes to rush hour in dense cities? Could we see a day when AI coordinates traffic to eliminate congestion? Beyond personal transport, autonomous vehicles are expected to transform logistics, with AI-driven delivery fleets making global supply chains more efficient and resilient.

3.AI's Cybersecurity Guardianship: A Digital Shield:

Today's cybersecurity landscape is strengthened by AI, with companies like Darktrace using it to detect and respond to threats before they escalate. By identifying unusual patterns, AI helps protect our data from evolving arisks. Yet, as hackers adopt AI of their own, will AI defenses remain one step ahead? Can we rely on these digital guardians to protect our most sensitive information? Looking ahead, AI could even predict potential threats based on global cyber activity trends, proactively strengthening security in vulnerable sectors.

4. Creative Machines: AI's Leap into Art and Innovation:



AI is already collaborating in creative fields, generating artwork, composing music, and assisting designers with tools like OpenAI's DALL-E. Far from replacing human creativity, it enables artists to explore new realms of imagination. But what if AI advances to the point of creating art indistinguishable from human works? Will artists and designers embrace this technological partner or see it as competition? As AI-generated art gains popularity, new fields like AI curation are emerging, where human curators work alongside AI to select and refine the best digital creations.

5. Ethics in AI: Navigating Humanity's Moral Crossroads:

As AI grows more powerful, we must confront the ethical dilemmas it creates. With AI capable of influencing hiring decisions, administering justice, and even participating in military decisions, can we trust it to make fair and unbiased choices? What happens if it doesn't? Ensuring transparency in AI decisions, especially in sensitive areas like law enforcement, will be crucial in maintaining public trust and upholding ethical standards. Will job displacement from automation cause irreversible societal shifts, or will we adapt to a future where machines handle routine tasks?

As AI continues to evolve, its potential to redefine our world grows ever more significant. From influencing our everyday choices to reshaping entire industries, AI stands at the edge of vast, transformative change. However, with great power comes the responsibility to guide this technology carefully. Initiatives like Microsoft's AI for Good are working to minimize bias and promote fairness in AI systems, but the journey is just beginning. Ultimately, AI's impact depends on our ability to steer it responsibly, ensuring it becomes a tool that benefits all of humanity. The future of AI is full of promise, but also of profound questions that we, as a society, must address togethers.

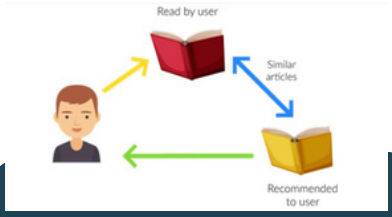
OUTSMARTING RECOMMENDER SYSTEMS: PROTECTING YOURSELF FROM MANIPULATION AND BIAS

~Rania mehreen farooq

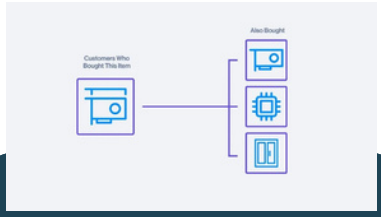
In today's digital era, machine learning-based recommender systems dominate platforms like social media, e-commerce sites, and streaming services and decide what to show to users. They influence decision-making because they decide about what comes to a user's attention. While these systems aim to enhance user experience, they can also exploit vulnerabilities, such as a user's emotional state, for profit. There have been more and more demands for openness as these ML systems have grown in significance. As direct consumers, let's delve deeper into the mechanisms of these recommender systems and how they can be hacked.

HOW RECOMMENDER SYSTEMS WORK

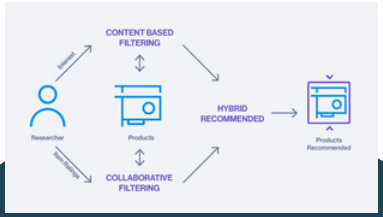
Recommender systems are built on three primary techniques:



Content-based recommender systems aim to recommend items that are similar to items that have previously interested a specific user. For example, if you've purchased sci-fi books, the system might recommend similar titles based on genre and themes.



Collaborative filtering-based recommender systems
The basic assumption in the Collaborative Filtering technique is that users who share similar interests will consume similar items. For instance, if two users bought the same products, one user's choices can influence recommendations for the other.



Hybrid systems
Hybrid systems combine content-based and collaborative filtering techniques to overcome individual limitations and improve recommendation accuracy. For example, Netflix combines viewing history (content-based) with the preferences of similar users (CF) to suggest movies or shows.

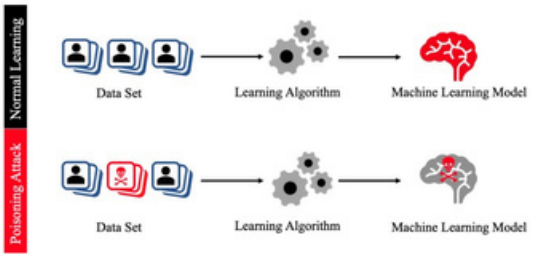
While these systems seem helpful, it's important to recognise that their primary goal is to keep you engaged, sometimes at the expense of your independence

MANIPULATING AND EXPLOITING RECOMMENDER SYSTEMS

Recommender systems are not inherently harmful; however certain individuals or organisations may exploit them for their own advantage. Following are some ways in which recommender systems can be manipulated.

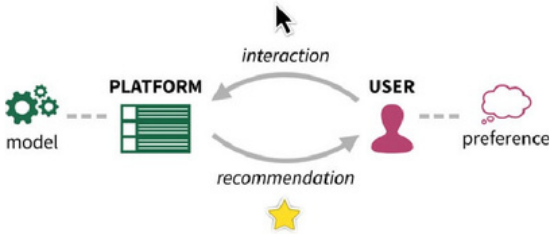
1 DATA POISONING ATTACKS

Attackers can inject fake data into the training set of the recommendation model to make the model behave abnormally (e.g., to promote some target items to users). These kinds of attacks are named data poisoning attacks. For example, fraudulent positive ratings will promote a company's products, while fraudulent negative ones will demote those of the company's competitors. Marketplaces such as Amazon and eBay suffer from such attacks daily.



2 ALGORITHM EXPLOITATION

Recommender systems learn user's preferences through their interaction on the platform, which leads to recommendations that impact the user's interaction. This results in a feedback loop. Thus, Recommender systems introduce bias during the interactive feedback loop with users over time.



3 ADVERSARIAL ATTACKS

Several schemes based on generative adversarial networks (GANs) have recently been proposed that automatically mimic the behaviour of genuine users to influence the targeted system. Another technique is to exploit the reward signal in a reinforcement learning scheme as a backdoor into the recommender model.

4 AI-BASED ATTACKS

These attacks are purposefully designed to deceive machine learning models, often exploiting their vulnerabilities to alter their outputs. For example, carefully crafted input data that is designed to cause an AI system to make incorrect or biased predictions.

SAFEGUARDING YOURSELF FROM RECOMMENDER SYSTEM MANIPULATION

Diversify your interactions

Actively search for content or products outside your usual preferences to prevent algorithms from locking you into a narrow bubble.

Spot Fake Reviews

Check for signs of fake reviews, such as overly generic or repetitive language. Use third-party tools to verify ratings and authenticity.

Review Privacy Settings

Adjust privacy settings on platforms to limit the amount of personal data shared with recommender systems.

Do Your Own Research

Before making a decision based on recommendations, invest time in independent research. Compare options across multiple platforms and sources.

Stay Educated

Understanding how recommender systems work can empower you to recognise when you are being manipulated.

POCKET-SIZED POWERHOUSES: THE RISE OF SMALL LANGUAGE MODELS

-Mohammed Omer

Imagine carrying a super-intelligent assistant in your pocket—not just a smart gadget, but a truly powerful language expert designed to make life easier. That's the promise of small language models (SLMs), a fascinating branch of AI that's reshaping how we interact with technology. These models aim to bring the power of artificial intelligence into the palm of your hand, making it more personal, portable, and accessible than ever before.

While large language models (LLMs) often grab headlines with their jaw-dropping capabilities, they come with a hefty cost: they require immense computing power and guzzle energy, even for basic tasks. Small language models offer a smarter alternative by focusing on efficiency. They pack a punch without the bulk, thanks to innovations like **quantization** (a clever way to simplify data and reduce memory usage) and **knowledge distillation** (where smaller models "learn" the best insights from their larger counterparts). Think of it as a digital diet that trims the excess while keeping all the smarts.

Companies like Meta, BigScience, and Google are already diving into this space with models like OPT, BLOOMZ, and Flan-T5. These pioneers are exploring different ways to shrink AI without compromising performance. Their small models are proving to be increasingly capable, tackling tasks like answering tricky questions, solving math problems, and even handling common-sense reasoning.

The future of SLMs is full of potential. Imagine a phone that can translate conversations in real-time, sum up lengthy articles in seconds, or generate creative ideas—all without needing an internet connection. This vision isn't far off. As researchers develop specialized training techniques and design models optimized for mobile hardware, we're moving closer to a world where personalized, on-the-go AI becomes a reality.

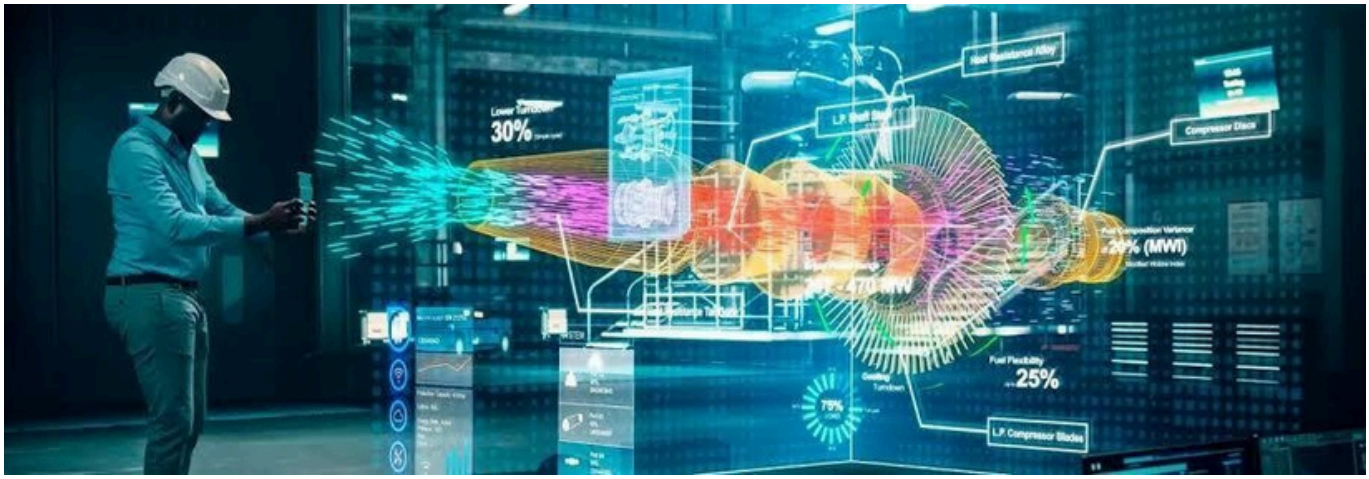
Small language models may not grab the spotlight like their larger siblings, but their impact could be just as transformative—one pocket at a time.

That said, challenges remain. Small language models still struggle with latency (how fast they can generate a response) and memory use**, especially when handling longer inputs. Researchers are hard at work figuring out how to improve efficiency while keeping performance sharp. The goal is to make these models faster, lighter, and more practical for real-world use.

DIGITAL TWIN: AN INDUSTRIAL REVOLUTION?

-Ayesha Mirza

"Revolution thrives on innovation, forging a future where ideas power progress and technology transforms possibilities into reality." A Digital Twin is no exception.
In today's rapidly developing world, digital twins have emerged as a game changing innovation. Bridging the gap between reality and virtuality, digital twins combine advanced analytics, real-time monitoring, and simulation, enabling organisations to revolutionise operations, create efficiencies, and uncover endless opportunities across industries.



WHAT IS A DIGITAL TWIN?

Essentially, a digital twin is a dynamic virtual model of a physical entity, updated in real-time through a seamless flow of data. This digital representation is powered by sensors, data analytics and artificial intelligence which enables the digital twins to evolve with their real-world counterparts. Thus, it allows its users to simulate, monitor and predict performance, identify insufficiencies and optimise processes without any direct interaction with the physical entity.

MORE THAN JUST A 3D MODEL !

A digital twin includes real-time data streams from IoT sensors on the physical asset. Furthermore, it consists of behaviour models which are algorithms that simulate how the asset reacts under various conditions. To predict the outcomes and recommend improvements, artificial intelligence and machine learning are used. Lastly, the feedback mechanisms allow adjustments to the physical counterpart based on insights.

DIGITAL TWIN'S WORKFLOW : A CLOSER LOOK

The lifecycle of a digital twin is divided into the following stages:

1. **Creation**: To begin with, digital twins are created using detailed blueprints, CAD models, or real-world scans of a system or asset. Sensors and IoT devices are then installed to collect key data points such as temperature, pressure, speed, etc.
2. **Connection**: The data collected by the various sensors is transmitted to a centralised platform, often via cloud-based systems which is then integrated with AI algorithms, ensuring that the virtual model adapts continuously.
3. **Simulation**: The reaction of the asset under various real-world or hypothetical conditions is tested by simulations. This step is considered crucial for predictive maintenance and performance optimisation.
4. **Insights and Action**: The digital twin generates actionable insights for users. Adjustments or optimisations are then implemented in the physical system.

WHAT MAKES THEM REVOLUTIONARY?

The widespread application of digital twins make them standout from the crowd:

Manufacturing and Industry 4.0:
Predictive Maintenance – Digital twins are used to analyse data and are instrumental in prediction of equipment breakdowns, reducing downtime to the least minimum.

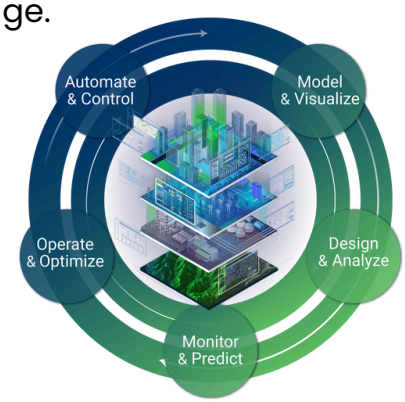
Healthcare:
Personalised Medicine – Virtual replicas of organs allow surgeons to practice various medical procedures and evaluate treatments more efficiently.

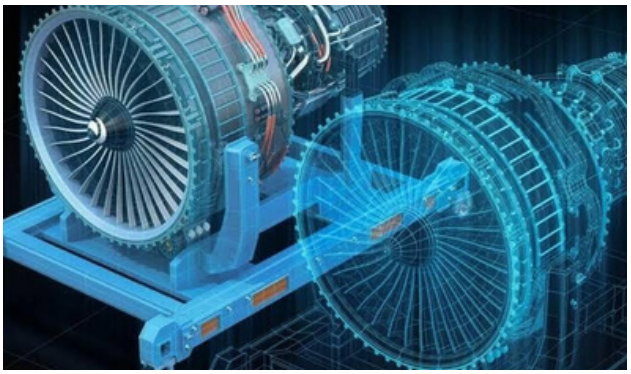
Smart Cities:
Urban Planning – Twins are handy in simulating infrastructure projects to optimise transportation, energy, and environmental impact.

Construction and Real Estate:
Building Information Modelling (BIM) – Ensures that the building structures are constructed to specification and maintained proactively.

Energy and Utilities:
Power Plants – Digital twins are used to simulate operations to maximise the efficiency and safety in and around the power plants.

Aerospace and Automotive:
Fleet Management – Virtual models of vehicles and aircrafts are created and their health is regularly monitored for timely repairs and optimal usage.





FUTURE TRENDS IN DIGITAL TWINS

With the advancement of technology, digital twins are set to become more powerful and widespread:

- Integration with the Metaverse: Virtual twins could be visualised in immersive and breathtaking 3D environments for enhanced interaction and understanding of a wide range of subjects.
- AI-Driven Twins: With the rapid growth of AI, twins will be empowered to learn, adapt, and optimise independently.
- Twins for Every Individual: In healthcare, digital twins could become a person's health monitor, covering their vitals and simulating health scenarios for preventive care with customisation made available for each individual.
- Global Ecosystem Models: From the vast Amazon rainforest to the Great Himalayas, literally any ecosystem could be replicated as digital twins to study environmental impacts and take sustainability to another level.

A BOON TO THE INDUSTRIES!

The future of digital twins is incredibly promising. As they grow more sophisticated, their applications are poised to expand into diverse areas like space exploration, education, and personal productivity, transforming industries and individual experiences alike. By seamlessly connecting the physical and digital worlds, digital twins have become the means of transformative innovation. They help us test ideas, solve complex problems, and achieve what once seemed impossible, creating a future where technology truly works hand in hand with human imagination and creativity.

METAVERSE: REVOLUTION OR A STEP TOWARDS APOCALYPSE?

~Mohammed Fawaz Malik

A line from Neil Stephenson's novel "Snow Crash". Being released in 1992, It was way ahead of its time, being the first to use the term, "The Metaverse". Fast forward to today, with tech giants such as Meta, Google, and Amazon pouring Billions into its research, there arises a question, What is Metaverse and where is it taking us?

WHAT IS METAVERSE?

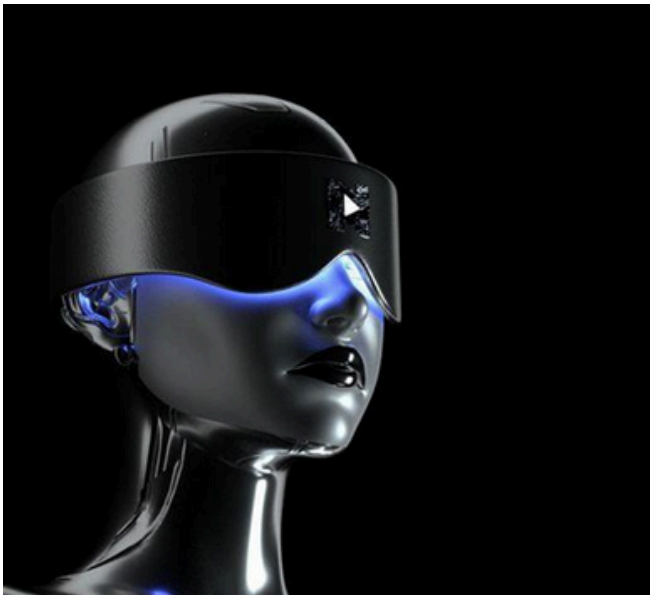
An immersive digital realm where users interact with avatars in a persistent, 3D environment, transcending physical limitations and enabling a multitude of experiences. Didn't get it, did you? Let me explain.

Imagine you live in Delhi, India and have a friend in Tokyo, Japan. It's their birthday party, and instead of a simple video call, You just wear a headset, plug into the Internet, Log into a server, and BOOM! You're with them as they cut their Birthday cake! Fascinating, isn't it?

The Metaverse is a virtual world where people can interact, work, and play with each other, without being physically present. It's an online world where you can do almost anything you can do in the real world, but digitally.

In recent times, we've all witnessed how the words "Virtual Reality (VR)" and "Augmented Reality (AR)" have started to come into use more frequently. These Technologies, along with "Blockchain" and "Artificial Intelligence" form the backbone of Metaverse, where each component contributes a unique feature.

- VR creates immersive, simulated experiences.
- AR overlays digital content onto the real world.
- Blockchain ensures decentralization and security of virtual assets.
- AI drives automation, realism, and personalization within these digital spaces.



A REVOLUTION, IS IT?

The metaverse is bound to revolutionize different industries by offering immersive digital experiences. From virtual showrooms that allow customers to try on clothes or test-drive cars all from the ease of their home, to collaborative workspaces that bridge geographical distances, the metaverse is reshaping the way we interact and conduct business. Healthcare professionals can train in realistic virtual environments, while educators can create engaging and interactive learning experiences. With plots of land being sold for millions on platforms such as Decentraland and The Sandbox, Virtual real estate has also become a market which promises great profits. As the metaverse continues to evolve, its potential to transform industries and society as a whole is tremendous.

Everything sounds so incredible, doesn't it? Like stepping into a world of endless possibilities. The metaverse feels like it's weaving the fabric of a real-life utopia—where boundaries dissolve, imagination thrives, and the future of mankind sparkles with innovation. But, where there is light, shadows tend to follow. There is a darker aspect to this digital dream, a dystopian vision that lurks behind its peaceful exterior. We must face the dangers as we investigate the possibilities for advancement—where liberty can turn into captivity and where the very ties that bind us together may end up serving as the things that separate us. Lets also look into some of these darker sides of the Metaverse.

THE DARKER SIDE

The Metaverse poses the significant danger of blurring the lines between virtual and real-life experiences. In his 2011 novel Ready Player One, Ernest Cline depicted a dystopian picture where people lose themselves in virtual worlds, neglecting the real world totally. And as thrilling as the Metaverse sounds, this cautionary tale feels eerily close to reality. But wait, let's look into it a bit deeper and see what's hiding behind the curtain.

- **Privacy Risks: Are You Being Watched?**

Think about it. Every click, swipe, and interaction in the Metaverse generates a large pile of data. This data, if mishandled, can become a treasure for advertisers or, worse, a potential target for cybercriminals. Scary, isn't it? With Blockchain as its backbone, the Metaverse promises decentralization, but even this advanced tech isn't foolproof against misuse.

- **Mental Health: Escaping Reality or Escaping Yourself?**

Imagine spending hours in a dreamy virtual world, where you're taller, richer, and more confident. Sounds like an escape, a dream come true, right? But what happens when you're forced to face the reality all over again? Being overly dependent on the Metaverse could lead to social isolation, addiction, and a distorted sense of identity. It's a psychological disaster, a can of worms we aren't ready to open.

- **Economic Divide: A New Digital Class System?**

Let's be real, who gets to afford land in Decentraland or premium skins for their avatars. Not everyone, right? The Metaverse, while being a digital paradise for some, could create discriminative feelings between those who can invest in its opportunities and those who are left behind. A digital version of the rich getting richer and the poor staying poor, is it?

SIGNALCIPHER: DECODING THE WHISPERS OF THE COSMOS

~Maheeya Wajahat

Space is vast, silent, and mysterious. Yet, amidst this infinite quiet, signals flicker—faint whispers that travel light-years, carrying secrets of distant stars, alien worlds, and cosmic phenomena. These whispers, though subtle, hold the potential to reshape our understanding of the universe. Enter SignalCipher: the art and science of decoding these cosmic murmurs and turning them into stories that we, on Earth, can comprehend.

The Language of the Universe

The universe communicates through signals—radio waves, light, gamma rays, and gravitational waves. But these aren't simple or clear messages. They're faint, messy, and mixed with noise. SignalCipher works like a translator, helping us understand this complicated language. Imagine cracking an old code. Each signal contains hints—about how stars are born, how black holes die, or even if alien life exists. But decoding them takes more than advanced tech; it also requires curiosity, creativity, and persistence.

Why SignalCipher Matters

Every decoded signal brings us closer to understanding the universe. It's how we've discovered pulsars, studied the Big Bang's afterglow, and found fast radio bursts. It's also how we hope to one day receive a message from another civilization—a simple "hello" that could change everything.

But SignalCipher is more than just science. It's about our human drive to learn, connect, and explore the unknown. It reminds us that the universe isn't silent—we just need to learn how to listen.

HOW SIGNALCIPHER WORKS

SignalCipher is all about combining high-tech tools with clever thinking.

1. Listening to the Cosmos

Huge telescopes and observatories around the world pick up the faintest signals from space. It's like trying to hear a whisper in a noisy room, but these tools are built to handle that.

2. Separating Signal from Noise

Space is full of noise—interference from Earth, the Sun, and countless other things. The first step is filtering out this clutter to find the signals worth exploring.

3. Decoding the Whispers

Once the signals are clear, the hard work begins. Algorithms, machine learning, and computers work together to understand them. Is it a pulsar? A distant galaxy? Or something completely new?

4. Telling the Story
SignalCipher doesn't just decode signals; it also explains them. Each signal becomes part of a bigger story about the universe

"HACKATHONS" OFFERS A WIN-WIN EXPERIENCE?

~Amina Hasanaath

Hackathon encourages participants to think creatively and develop innovative solutions to real-world problems within a limited time.
Everyone's on a mission to solve problems in the wildest ways possible. Welcome to the world of hackathons—a place where ideas turn into reality and teamwork makes the dream work, all in just a few intense hours.
It all started way back when OpenBSD organized the first-ever hackathon, where people pushed their brains to the limit to come up with cool code solutions. Since then, hackathons have exploded worldwide, and now millions of people join in, from pros to beginners, all ready to show off what they've got. But, here's the thing—many people feel nervous or think they're not good enough. Sound familiar?
But wait—did you know some of the world's biggest successes came from hackathons? Steve Jobs once said, "The people crazy enough to think they can change the world are the ones who do." He wasn't

In fact, Mark Zuckerberg and his roommates created Facebook during a hackathon! Imagine the social media giant starting in a tiny coding event! Twitter? Yep, that too was born in a hackathon. Even GroupMe, the app you use to message your friends, started from a hackathon before it was scooped up by Microsoft.
But it's not just about making the next big app. Hackathons are all about solving problems, being creative, and working together. You don't need to be the best coder in the world to join. If you can design, test, or even just brainstorm some cool ideas, you're in! The real magic happens when all kinds of people team up to build something awesome.

So, if you've ever thought hackathons weren't for you, think again! It's not about being perfect—it's about jumping in, learning, and having fun. You'll gain new skills, meet awesome people, and walk away with crazy stories. Hackathons give you a taste of real-world project craziness, and it pushes you to think differently, giving you a confidence boost like no other.
And guess what? Some of the coolest events happen right here at CSI's hackathons at MJCET. These events are known for being super fun and filled with epic ideas. Whether you're a coding wizard or just curious, it's the perfect place to challenge yourself and see what you're made of.
So, why wait? Get in the game, join a hackathon, and let your ideas go wild! You never know; the next big thing might just be something you create!

THE ART OF CONCEALING

~Ahamadi Hareem

These days, the word "**crypto**" pops up everywhere. For most of us, it instantly brings cryptocurrency like Bitcoin to mind—a digital revolution that has captured global attention. But have you ever paused to think about what "crypto" actually means?

At its root, "crypto" comes from the Greek word kryptos, meaning "hidden" or "secret." Cryptography, a key derivative, is the art and science of disguising messages—making them unreadable or altering their meaning to protect sensitive information. Over centuries, this art has evolved, moving from hiding physical messages to complex digital encryption that powers modern communication.

For ages, the need for secrecy has been a driving force in human history. Kings, queens, generals, and influential figures relied on secret codes to protect their empires. One wrong message intercepted could bring an empire to its knees. This urgency led to the birth of codes and ciphers. Fast forward to today, governments and security agencies still lean on cryptography to safeguard nations, employing it to prevent cyber threats and intercept potential dangers, just as leaders did in the past.

Nations have long been locked in a race to outsmart adversaries, crafting intricate codes to shield their secrets while investing in skilled codebreakers to crack those of their enemies. It's a constant tug-of-war, an evolutionary arms race where every discovery of a code's weakness sparks the need for a stronger, more resilient one.

THE ROOTS OF CRYPTOGRAPHY

Before cryptography, ancient civilizations used steganography—a fascinating method of hiding the very existence of a message. Steganography, derived from the Greek word steganos (meaning "covered"), involved ingenious techniques like:

- Encoding messages within the intricate patterns of textiles or weaving, making them readable only to those who knew the decoding technique.

- Shaving a messenger's head, writing a message on their scalp, and waiting for their hair to grow back to conceal it.
- Writing a secret note on a hard-boiled egg using a special ink that stained the egg's surface.
- Swallowing a wax ball with a hidden silk message inside.

While these methods were clever, they had a glaring flaw: physical evidence of the hidden message could be uncovered. This limitation eventually paved the way for cryptography, which focused on encrypting the content itself rather than just hiding it.

One of the earliest cryptographic methods was the Caesar cipher, named after Julius Caesar. This simple substitution technique shifted each letter in the alphQabet by three places, turning plain text into a coded message:

- **Plain Alphabet:** A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
- **Cipher Alphabet:** D E F G H I J K L M N O P Q R S T U V W X Y Z A B C

Cryptography Today

In modern times, cryptography sits at the intersection of mathematics, computer science, and information security. It's the backbone of everything from online banking to national defense systems. Cryptographers have played pivotal roles in shaping history, from cracking the Enigma code during World War II to intercepting threats in the post-9/11 era. Their work has saved countless lives, including thwarting terror attacks like the 2015 Paris incident.

Cryptography continues to evolve, securing our digital lives while staying one step ahead of cybercriminals. As technology advances, so does the need for robust encryption—ensuring that secrets remain safe, whether they belong to an ancient empire or the modern world.

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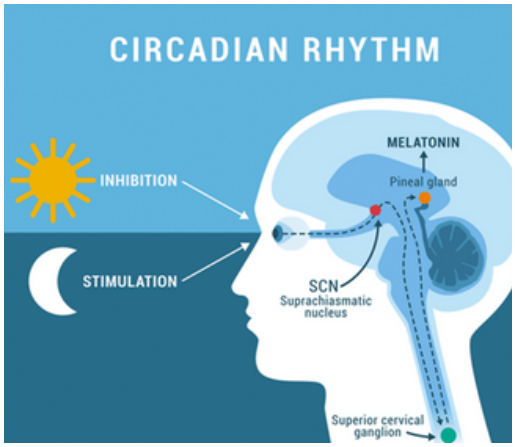
THE BODY'S INNER CLOCK: UNDERSTANDING CIRCADIAN RHYTHMS

~Mohammed Abdul Adil



Imagine waking up every morning refreshed, energized, and ready to conquer the day. Now, consider how rare this might be for many. For the staggering 50 to 70 million Americans who experience chronic sleep disorders, this is a distant dream. Sleep disorders, along with their ripple effects on health, are increasingly commonplace in today's fast-paced world. What if knowing the patterns that regulate our bodies held the secrets to better health, enhanced mental well-being, and even a longer life?

Let's take a journey into the realm of circadian rhythms, investigate how they associate with sleep and hormones, and discover how simple daily habits, such as sunlight and exercise, might be the missing pieces of your health puzzle.

What Are Circadian Rhythms?

Circadian rhythms are fundamental cycles that guide numerous biological processes within organisms, playing a critical role in health and well-being. A circadian rhythm is a natural cycle of approximately 24 hours that regulates an organism's major functions, such as sleep, digestion, and even hormone release. Deeply in the organism's physiology, this rhythm is mostly controlled by the suprachiasmatic nucleus found in the hypothalamus of the brain. This "master clock" coordinates bodily functions, aligning them with external cues like daylight, helping our bodies adapt to environmental changes over a day.

Sleep and Hormones: A Delicate Dance

The connection between circadian rhythms and sleep is vital. During the day, exposure to light triggers the suppression of melatonin, a hormone that signals the body to prepare for rest. As night falls, melatonin production ramps, encouraging deep, restorative sleep.
Sleep is far more than a passive state; it's an active process where the body repairs tissues, consolidates memories and regulates hormones. Sleep deprivation, however, disrupts this balance, leading to:
- Obesity: Poor sleep increases ghrelin (hunger hormone) and decreases leptin (satiety hormone), driving overeating.

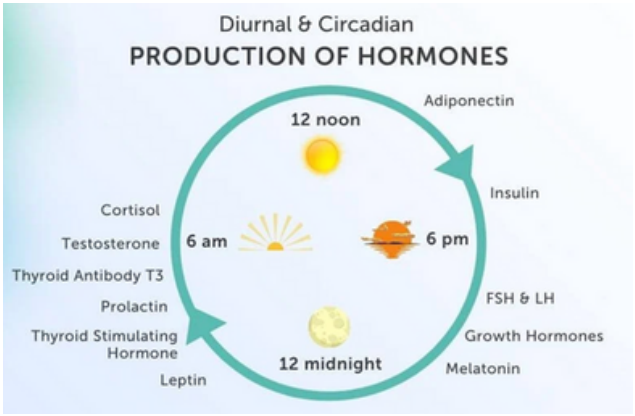
-Mental Health Issues: Sleep deprivation exacerbates stress, anxiety, and depression.

-Cancer Risks: Insufficient sleep may weaken immune function and disrupt cellular repair processes.

- Heart Disease: Chronic sleep loss is linked to high blood pressure and inflammation.

What Sunlight Can Do for Resetting Your Clock

Natural light exposure is a fundamental necessity for aligning circadian rhythms. While we've long been taught that sunlight is an excellent source of vitamin D, its role in regulating our internal clock often goes overlooked. Morning sunlight, in particular, helps reset your circadian rhythms, enhancing alertness and mood by boosting serotonin levels.



Spending time outside, even on cloudy days, dramatically affects both the quality of sleep and general health: sunlight can penetrate through clouds and still be of benefit to one's health. Lack of sunlight, however, has been known to cause Seasonal Affective Disorder and other mood disorders. For those confined indoors, as simple as a walk outside every day can make the difference.

However, intense exposure at peak temperatures should be avoided to prevent health complications.

EXERCISE: YOUR CIRCADIAN RHYTHM REGULATOR

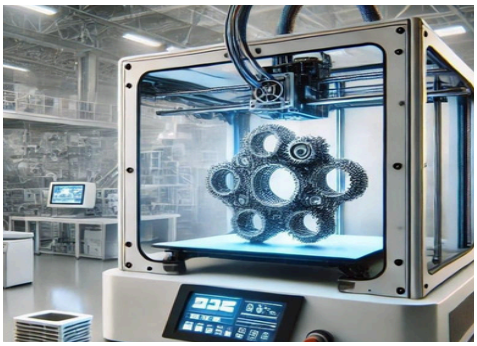
Physical exercise is one of the best compliments for sun exposure to one's circadian rhythms. It could be an intense cardio workout, weight training, cycling, or even a brisk walk. Regular exercise has transformations that work wonders with your overall well-being.

Exercise helps reduce stress hormones like cortisol, stabilize moods, and promote cardiovascular health. The strength-based exercises especially complement weight training, which adds healthy testosterone levels to muscle mass, energy, and overall vitality. Exercise can thus help internalize a rhythm while physically and mentally building resilience in the long run.

Timing is everything. Although exercising in the morning or afternoon is closer to circadian rhythms, intensive exercise close to bedtime can interfere with sleep by causing an increase in body temperature and arousal of the nervous system.

ADVANCEMENT IN 3D PRINTING AND ADDITIVE MANUFACTURING

~Mohammed Tabrez Ali Khan



"We're at the start of the Fourth Industrial Revolution, a time when technology is changing the way we live and work at an incredible pace. They're reshaping how we create and produce, making it easier to customize, reduce waste, and innovate in ways we couldn't imagine before. From building medical implants to crafting parts for rockets, these technologies are set to play a huge role in the future of industries and our daily lives." WHAT IS 3D PRINTING?

At its core, 3D printing is a process of building objects layer by layer from a digital file. The technology employs various materials, such as plastic, metal, resin, and even organic substances, to create objects with precision and accuracy. Unlike traditional subtractive manufacturing, where material is removed to shape an object, 3D printing adds material only where it is needed, minimizing waste.

THE HISTORY OF 3D PRINTING

3D printing, or additive manufacturing, has its roots in the 1940s when the idea of building objects layer by layer was first imagined. However, it wasn't until the 1980s that this vision became a reality with Hideo Kodama's invention of early 3D printing equipment. Over time, technologies like stereolithography (SLA) and metal laser sintering emerged, allowing the creation of complex designs. Initially, the technology was limited by high costs and material constraints, but it steadily advanced into a practical tool for creating prototypes and manufacturing parts.

THE FUTURE OF 3D PRINTING

Looking ahead, 3D printing is poised for even greater breakthroughs. Innovations like multimaterial printing, faster production times, and more versatile materials will make it even more accessible and efficient. Its ability to minimize waste and support sustainable manufacturing will play a vital role in building a greener future. As the technology evolves, industries are expected to embrace it further, unlocking new possibilities in areas we can't even imagine yet.

MODERN-DAY APPLICATIONS OF 3D PRINTING

Today, 3D printing has moved far beyond its early days and is transforming industries worldwide:

- Aerospace: It's used to create lightweight, durable components that improve efficiency in aircraft and spacecraft.
- Healthcare: From custom prosthetics and dental implants to organ models for surgeries, 3D printing is saving lives and improving care.
- Automotive: Automakers use it to prototype designs quickly and produce specialized parts faster than ever.
- Education: Students can turn theoretical ideas into physical models, making learning more engaging and practical.

GUARDIANS OF THE WEB: NAVIGATING THE CYBERSECURITY

~Mohammed Omer Waheed Khan

In today's interconnected world, our lives are intertwined with technology, making cybersecurity critical. Imagine living in a neighborhood with unlocked doors—except instead of burglars, we're dealing with hackers. Cybersecurity is the digital equivalent of locking those doors. It involves practices and technologies that safeguard computers, networks, and data from malicious attacks that aim to compromise our digital lives.

Why is this so crucial? As more of our personal, financial, and professional information moves online, the risk of it being stolen or compromised rises. From your grandmother's bank account to the data of a Fortune 500 company, cybersecurity is everyone's responsibility. In a digital landscape where nearly everything can be accessed at the click of a button, we must protect ourselves against those who would misuse that access.

The Rogues' Gallery: Common Cybersecurity Threats

Just as there are heroes in the cybersecurity jungle, there are villains to watch out for. Here are a few digital dangers that we all should be aware of:

- **Malware:** This includes viruses, worms, and ransomware designed to infiltrate systems, steal data, or hold it hostage. It's like a digital parasite that never wants to leave.
- **Phishing:** Ever get an email that seems a little too good (or too scary) to be true? That's phishing! Cybercriminals try to trick you into revealing sensitive information by pretending to be trustworthy sources.
- **Denial-of-Service (DoS):** In these attacks, hackers overwhelm a system, making it impossible for real users to access it. Imagine being stuck in a huge traffic jam—you can't get through, and that's the point.
- **Man-in-the-Middle (MitM):** Like eavesdropping on a conversation, hackers can intercept communications between two parties, often on unsecured Wi-Fi.

These threats are not only common but also evolving. As hackers develop new techniques, it's essential to be vigilant. So, how do you protect yourself from these dangers? Let's explore some simple yet effective ways to keep cyber threats at bay.

As technology evolves, so do cyber threats. With the rise of Internet of Things (IoT) devices and Artificial Intelligence (AI), the challenges are only increasing. Soon, quantum computing could even crack today's encryption methods. Additionally, there's a shortage of cybersecurity talent, making it harder to defend against these threats.

TECH RELATED : FACTS AND PUZZLES

Facts

1. Did U know: there is a secret computer in u r purse, actually the chip in your debit/credit card Is just more than a chip it consists of a ram, rom and a processor and also contains folder files too... The ram size ranges from 1kb to 8kbs and rom from 64kbs to 128kbs, now u might think how does this computer gets powered from they actually work on magnetic field in their surroundings.
2. The revolution of modern phones was started around 2010 as per reports by the time of 2012 the sales of physical calculators was reduced by 90% and also the sales of wrist watches dropped by 60%
3. Electroceuticals – The new technology that will used for curing diseases and treatments in which electronics and robots will be released in your blood vessels to cure/prevent diseases...
4. The tiny single Pixel of your OLED screen can actually transfer data invisibly using light, your OLED screen can actually used as routers in the future
5. In 1980 IBM launched 1 gb hard disk costing around 32 lacs rs and weighing around a refrigerator fast forward to today 1 gb pen drive cost around 100 rs 6. There is a gravity sensor in your smart phone which can sense if there is a earthquake and raise emergency alerts.
7. In a span of milliseconds your phone releases around 30000 infrared rays through it's selfie camera sensor and creates an identity this all happens when u uses the face lock on your devices remember it is done in less than a second, now u may wonder if it's dangerous? No not at all..
8. India has the lightest satellite of the world, even lighter than u r laptop which is known as the Kalam Sath V2, inspired and dedicated to Dr. A.P.J. Abdul Kalam, it can actually complete the orbit of the earth and also send signals
9. The Super Quantum Computer Willow which is the Size of the processor in your regular systems is as powerful as the it has the power of around 70 crore regular computers
10. The Android Operating system was made for digital cameras later, due its potential was shifted to make electronics like phones, tablets, laptops.

11.The term debugging was coined when there was a moth causing trouble in early computers later the bug was removed and today we have the term debugging

12. The QWERTY design on your keyboard was actually made to slow down typing speed of type writers in older days and later adapted by keyboards

13. The Bluetooth technology which we use today to connects our wearables or other devices was once used in space mission and under water missions..

14. You can actually control devices through your neuro signals and gestures..

15. Iphone has around 75 elements out of 118 elements of the periodic table, which means if you are holding an Iphone u are holding 75 elements present in the universe

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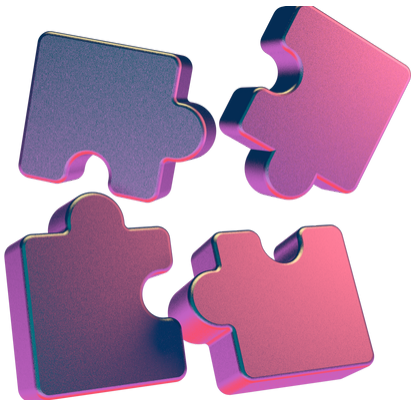


1. Bag of Coins

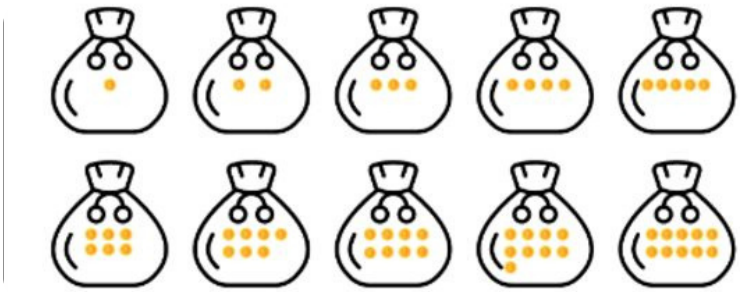
You have 10 bags full of infinite coins. But one bag is full of fake coins, and you can't remember which one. You know that a genuine coin weighs 1 gram, and a fake coin weighs 1.1 grams. How do you identify the bag containing forged coins in minimum readings?

The following puzzle is a good example of optimisation under constraint, somewhat like trying to reduce complexity when designing algorithms.

Solution:

Label the bags from 1 to 10. From bag number 1, take 1 coin. From bag number 2 take 2 coins, and so on. Put them all on the scale. If all the coins were good, then the bag should have a weight that is a whole number.

The extra weight will tell you which bag is counterfeit: if it is 0.2 grams overweight, then bag 2 has the counterfeit coins; if it's 0.3 grams overweight, then bag 3 has the counterfeit coins, and so on.

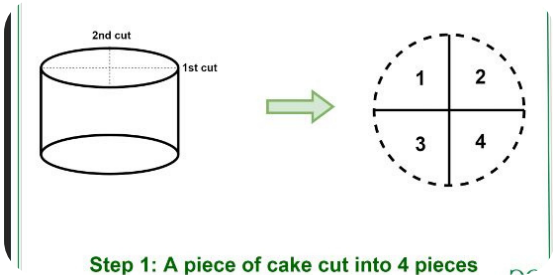


4. Three cuts to cut a round cake into 8 equal pieces

Puzzle: You have a birthday cake and have to cut it into 8 equal pieces by making 3 cuts only. How do you do it?

Solution: The solution can be divided into 3 basic steps. But apart from this there are also other method of executing this task.

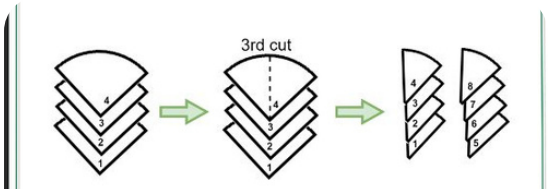
Step 1: Cut the cake into quarters (4 pieces) using 2 of the cuts – one horizontally down the centre of the cake and the other vertically down the centre of the cake. This will leave you with 4 pieces (or slices) of cake.



Step 1: A piece of cake cut into 4 pieces

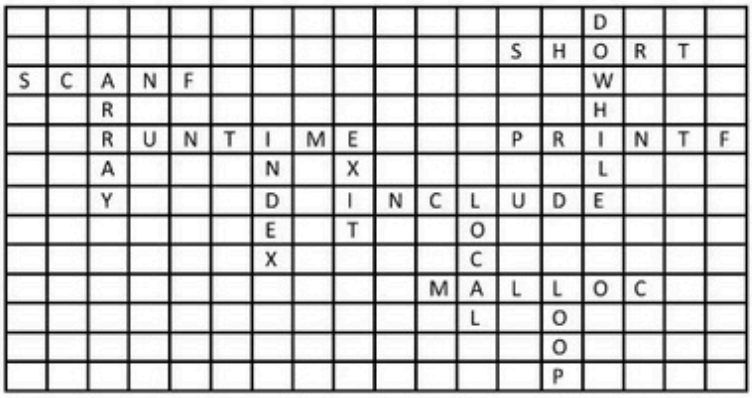
Step 2: Then take all 4 pieces and arrange them in a stack that is 4 pieces high.

Step 3: Finally, you can just cut that stack of 4 pieces in half – using your third and final cut – and then you will end up with 8 pieces of cake!



Step 2: Stack up the four pieces | Step 3: Make the final cut | Here you have 8 equal pieces

C - Programmer



ACROSS

1. Function to get user input in c.(5 letters)
2. Error found during code execution.(7 letters)
3. A preprocessor directive used for including files.(7 letters)
4. A keyword to allocate memory dynamically.(6 letters)
5. Smallest data type used to store an integer.(5 letters)
6. The standard output function in C.(6 letters)

Down:

7. A collection of similar data types.(5 letters)
8. A numerical value used to access elements in 7.(5 letters)
9. A function that stops the program execution.(4 letters)
10. A variable declared inside a function.(5 letters)
11. A structured programming construct for repetitive execution.(4 letters)
12. A type of loop that executes at least once.(7 letters)

FRIENDSHIP FOUND WITHIN COLLEGE WALLS

-Syeda Noor Fatima

When I first stepped into college halls,
Nervous and hopeful, within those walls.
I wondered if friends I would find,
To laugh and grow with, heart and mind.

To my delight, they emerged with grace,
Kind and gentle, fears they erased.
With laughter and wit, they filled my days,
In their embrace, I discovered my ways.

They kept my inner child alive,
Added to my quirks, helped me thrive.
In every rise and every fall,
Their love brought joy, my all in all.

We shared our lunches and laughed through class,
Dreamed our dreams, hoping they'd last.
Studied hard and played with delight,
In college together, everything felt right.

My fairytale, poignant and bright,
A cherished treasure, day and night.
May you always know, in the depths of my heart,
Your love and friendship will never depart.

TWILIGHT

-Tabrez khan

As the night drifts away-
The sun drowsily peeps out of it's lawn
The stars vanish with the crack of dawn
Purple and saffron stands run in the sky
As the crimson ball gives out a sigh
To yawns and grandly hauls over
As when dew drops on leaves hover
Pink clouds uncurtain from the heaven
As cool breeze by sunrise is driven

THE SHADOWS

-Sariah Fathima

What if the future you fear is a ghost,
A shadow you flee,
that haunts you the most?

The secrets you hide,
deep buried within,
The deeper the cuts,
the sharper the sin.

What if the plans you hold don't take flight,
What if the morning doesn't break,
And you don't see the light?

What if your neglect
Blooms into shame?
Lost chances, lost time,
As you continue to
shoulder the blame

What if you cared less,
And let go of what you hold?
But you're stained with scars,
The stories,
Of which
You've never told

What if,
Their whispers are true?
Is the sweetness a mask,
you wear for the views?

What if the gossip,
Was really slander?
You magnified it,
Just for your pander?
Or perhaps it was a pain
You tried to hide
Alas the shadow found you,
In vain

What if they knew the truths you conceal,
Would they see the pain,
You can't help but feel?

What if the fears you hold came alive,
And haunted the path
where your heart shall strive?

What if, in the end, you're just a mist—
What if, in truth,
You never did exist?
Would they smile,
Would they thrive,
Or simply forget?
For in a world without us,
Their hearts would surely be content.

FROM THE PRINCIPAL'S DESK

~ Dr. Mahipal Singh Rawat, Principal, MJCET

Dear Students,
As the new academic year begins, let these words from Nelson Mandela inspire you: "It always seems impossible until it's done." At MJCET, the focus is on preparing students to turn challenges into opportunities, fostering a mindset that sees possibilities and overcomes difficulties with determination.

This stage of life is not just about gaining knowledge but about shaping character and building strength. Each student embarks on a journey unique to their dreams, equipped with the tools to think creatively, adapt to change, and inspire others. The foundation built here will not only guide careers but also develop the courage to think big and embrace new ideas.

Hard work and focus are the keys to success. True achievement comes from the effort to improve skills, grow as a person, and push limits. Every success starts with dedication, and every breakthrough comes from a strong commitment to one's goals.

While academics are important, personal growth matters just as much. Students are encouraged to be kind, explore new ideas, and take part in meaningful activities. These experiences help shape well-rounded individuals who can lead with purpose and make a difference in the world.

As this academic year unfolds, remember that success is not just about the destination but also about the journey. Every challenge is a chance to grow, every setback an opportunity to learn, and every success a sign of your potential. The road ahead may not always be easy, but it is through hard work and determination that true success is achieved.

MJCET remains dedicated to helping each student discover their unique talents and reach their full potential. The institution stands as a source of support, encouraging everyone to rise above challenges and build a future filled with creativity, honesty, and impact.

Wishing you all a successful year ahead.

Dr. Mahipal Singh Rawat,
Principal, MJCET

FROM THE DEAN

~Syed Ferhathullah Hussainy, Dean, MJCET

Importance of Hackathons for Engineering Students
At the outset, I take this opportunity to congratulate all the teams that got selected in Smart India Hackathon 2024. The performance of all six teams has compelled me to write, Here's why hackathons are important:

1. Practical Learning beyond Theory.
Hackathons provide a hands-on experience where students apply theoretical knowledge to solve real-world problems.They foster a problem-solving mindset, encouraging students to think critically and innovate within time constraints.

2. Skill Development
Students enhance technical skills like programming, UI/UX design, and system architecture. They also develop soft skills such as teamwork, time management, and communication. Exposure to tools, frameworks, and technologies often outside the curriculum helps students stay industry-relevant.

3. Teamwork and Collaboration
Participants work in teams, learning to collaborate effectively with individuals from diverse backgrounds and skill sets. This mimics workplace environments and teaches students the value of coordination and delegation.

4. Networking Opportunities
Hackathons bring together students, mentors, industry professionals, and sponsors. Networking with like-minded peers and potential employers can lead to internships, job offers, or collaborations on future projects.

5. Creativity and Innovation
The open-ended nature of hackathon challenges inspires creative problem-solving and innovative thinking. Students often come up with groundbreaking ideas and prototypes that can evolve into startups or research projects.

6. Industry Exposure
Hackathons often involve industry professionals as judges or mentors, giving students insight into industry standards and expectations. They may also feature challenges sponsored by companies, exposing participants to real-world issues and current trends.

7. Confidence Building
Completing a project under pressure boosts confidence in one's abilities. Winning or even participating in a hackathon adds to a student's portfolio and showcases their initiative and capability.

Wish you all the best.

Syed Ferhathullah Hussainy
Dean (Student's Affairs) & Chief Superintendent of Examinations

EMBRACING INNOVATION: A PATH TO ENGINEERING EXCELLENCE

~ Dr. Syed Shabbir Ahmad, Head of CSE, MJCET

Innovation has become a driving force in higher education globally. As institutions, we must define innovation, establish a framework that promotes it, and recognize impactful innovations.

The Department of Computer Science Engineering (CSE) at Muffakham Jah College of Engineering and Technology has a rich history of fostering innovation and excellence. As engineers, we must adapt to change and develop sustainable technologies.

Innovation is Key to Engineering Success

We provide an atmosphere that motivates students and faculty to think differently, foster new methodologies, and implement breakthroughs. Students develop problem-solving skills through research projects, industry associations, and hackathons.

Building Future-Ready Skills

In today's AI-driven world, preparing for the future is crucial. Our curriculum equips students with technical and analytical skills necessary for success in fields like Cloud Computing, Artificial Intelligence, and Cybersecurity.

Collaboration and Knowledge Sharing

We believe in the power of shared knowledge. Our department promotes collaboration through workshops, seminars, and conferences that bring together students and industry professionals to exchange ideas. This inclusive learning culture cultivates personal growth and development.

Wish you all the best.

Dr. Syed Shabbir Ahmad,
Head,
Department of Computer Science & Engineering

FROM THE JOINT HEAD

~ Dr. Maniza Hijab, Joint Head , MJCET

Wishing each one of you, a very happy, healthy and academically fruitful New Year 2025.
Hearty congratulations to all associated with CSI Student chapter MJCET on its successful completion of TEN FRUITFUL years.

In the backdrop of today's competitive and fast changing technological landscape, it is mandatory for CSE students to be both tech-savvy and multi-domain conversant. The students should set a career goal (preferable more than ONE, in the light of multitude of opportunities), a related action plan, and equip self with the required technical and soft skills. They should have an insatiable appetite for learning. Since learning isn't just mastering technology, but cultivating a mindset that embraces change, innovation, and resilience. Technology on the other hand is a tool to solve problems and create opportunities. Thus equipping oneself with both the technical skills and critical thinking needed to apply them, one is prepared to meet challenges head-on and drive meaningful change in ones field of work.

I exhort the students to (in a balanced-way), secure their semester performances, participate in various co-curricular activities conducted by the student professional chapters of the college and outside, leverage the opportunities extended through SU Knowledge Hub, take up real-time problems as part of their mini and major project coursework and propose innovative and sustainable solutions, participate in Hackathons and showcase their innovation, do industry based internships, create and build their profiles(on github, linkedin etc.) and also do self-learning through the wide platforms available (viz., nptel, coursera, Udemy, and the various coding practice sites like LeetCode, HackerRank, CodeChef, Codeforces, Programiz to name a few). The above isn't difficult to achieve if the student (i.e. you) are focused, disciplined and regular in your daily task.

Lastly my best wishes to all for the success of HACK REVOLUTION 2025 to be held on 5th January.
Best wishes,

Dr. Maniza Hijab,
Joint-Head CSED.

BULLETIN TEAM

SHAKAIB AHMED MOHAMMED	CSE IV	EDITOR-IN-CHIEF
MOHAMMED ABDUL ADIL	CSE IV	CO-EDITIOR-IN-CHIEF
MOHAMMADI FATIMA	CSE III	EXECUTIVE EDITOR
MOHAMMED OMER WAHEED KHAN	CSE III	EXECUTIVE EDITOR
MOHAMMED ABDUL HASEEB KHAN	CSE II	EXECUTIVE DESIGNER
ASMA BEGUM	CSE II	ASSOCIATE DESIGNER
SYEDA KANEEZ FATIMA	CSE I	ASSOCIATE DESIGNER
SYED FARHAAN AHMED	AIML II	ASSOCIATE DESIGNER

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