

College of Engineering & Technology, Jammu (A Constituent of Sant Manjit Singh Trust)

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Refections

Annual Magazine

Vol-10, 2022



Sri Santpura Nangali Sahib Poonch (J&K)

Srimaan Mahant Bachittar Singh Ji 12th Successor of Shiromani Dera Sri Santpura Nangali Sahib Poonch (J&K) Srimaan Mahant Manjit Singh Ji 13th Successor of Shiromani Dera Sri Santpura Nangali Sahib Poonch (J&K)



From the Sole Trustee

Message

t gives me immense satisfaction to witness the current issue to the MBSCET College Magazine 'REFLECTIONS'. The quality and diversity of the content showcased within truly highlight the remarkable talents and creative spirit of our students and faculty. Each page offers a window into the institution's vibrant growth and development, reflecting a harmonious blend of intellect and spirituality.

Reflections serves as a testament to our commitment to fostering a holistic educational environment. By nurturing both academic excellence and spiritual awareness, we empower our students to become well-rounded individuals who can make a positive impact on the world.

I extend my heartfelt congratulations to the editorial team for their dedication and hard work in bringing this exceptional publication to life. Their efforts have created a valuable platform that not only celebrates our achievements but also inspires future generations.

As we look ahead, I am confident that MBSCET College will continue to reach new heights, making a significant impact on the lives of countless individuals and contributing meaningfully to society.

Srimaan Mahant Manjit Singh Ji Founder and Sole Trustee





From the Desk of Chairman

t's very rewarding to see the latest issue of our college magazine, *Reflections*. While we're a technical institute, we set ourselves apart by combining technology with creativity, logic with imagination, and reason with innovation. Great scientists were also creative thinkers, understanding that these qualities aren't opposites but complement each other. Creativity isn't about creating a final product; it's a mental process. It's like peeling back layers of your mind to reach deeper thoughts, leading to groundbreaking discoveries that can change the course of human history.

The world is changing rapidly, and so must our approach to education. It can no longer be solely about securing a job or a paycheck. Today, education needs to equip you with the skills and the audacity to push boundaries. It should ignite your desire to make a difference, to leave your mark on the world, and become a leader in your chosen field.

This magazine, *Reflections*, serves as a vital platform to cultivate those very competencies and attitudes. It's a space where students and faculty can explore their creative and imaginative sides, all while strengthening their rational and scientific thinking. Witnessing the insightful contributions within these pages brings me immense satisfaction – it's a testament to our college's commitment to your holistic development.

The dedication of all those involved in creating this magazine is truly commendable. I am confident that future editions will continue to showcase even more "healthier reflections" -a vibrant tapestry of ideas that represent the intellectual and creative spirit of our college community.

Prof. (Dr.) A.S. Sudan Chairman



From the Desk of Advisor

Message

he college magazine serves as a vibrant platform for students and faculty to unveil their hidden talents and showcase their remarkable achievements. It recognizes the contributions of individuals who excel in various fields, celebrating their dedication and expertise.

A well-crafted college magazine is a true reflection of the institution's excellence. The creative titles, engaging content, and thoughtful contributions from students and faculty members make each issue a valuable resource. By exploring the diverse range of artistic expressions, talents, and original ideas presented within, we can take immense pride in the intellectual and creative capabilities of our community.

I would like to commend the editorial board for their tireless efforts in bringing this publication to life. Their dedication and commitment have resulted in a magazine that is both informative and inspiring. We are committed to continuing this tradition of excellence and plan to publish the college magazine annually, providing a lasting record of our institution's growth and achievements

S. Lakhbir Singh Bawa Advisor



From the Desk of Principal

he college magazine serves as a gateway to the vibrant intellectual landscape of our institution. It offers a source of inspiration and pleasure for all those who delve into its pages.

As a member of the team dedicated to showcasing the talents of our students and faculty, I am honored to witness the dedication and creativity they bring to their contributions. Their powerful stories, evocative poems, vibrant drawings, and insightful articles collectively paint a vivid picture of our college's intellectual and artistic culture.

The enthusiasm and passion displayed by our students for this magazine is truly inspiring. It is evident that this publication serves as a valuable platform for self-expression and creative exploration. The college magazine is a testament to the excellence of our institution. It showcases the exceptional communication skills, poetic prowess, imagination, creativity, and technical competence of our students and faculty.

I extend my sincere gratitude to all the authors for their valuable contributions and to the editorial team for their tireless efforts in bringing this publication to life.

Prof. (Dr) D.S Pundhir Principal

Message



To be globally acclaimed technical institution for aspiring technocrats and continuously striving to explore new vistas of opportunities.

- Providing contemporary and advanced knowledge of engineering & sciences among students in coordinated and integrated manner.
- Developing culture of excellence in teaching, learning and innovation to provide opportunity to the students to become critical thinker and problem solvers.
- Producing competent skilled manpower based on demand of industry, society and corporate world.
- Promoting design & research culture by adopting latest technology and diverse resources for the benefit of society.

PROGRAM OUTCOMES

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design / development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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Department of Computer Science and Engineering

Vision of the Department

To develop competent professionals in the field of Computer Science & Engineering to meet the challenges of Industry & Society.

Mission

- Providing contextual and advance knowledge to students in line with industrial trends.
- Promoting effective Teaching and Learning Practices using modern tools and techniques.
- Promoting research and design environment by providing training in emerging softwares and technologies for fostering student's growth.
- Encouraging comprehensive development of the students by inculcating soft skills and ethics in their personality.

Program Educational Objectives (PEOs)

PEO1: Our graduates will have professional competency built with strong foundation in Computer Science and Engineering for global acceptance in industries, higher studies and research.

PEO2: Our graduates will develop computing systems, which enables them to analyze, evaluate and provide intelligent elucidation to meet industry challenges.

PEO3: Our graduates will compete with the challenges of social and professional concern by use of modern tools and software's.

PEO4: Our graduates will exhibit leadership quality, ethics, communication and lifelong learning skill.

PROGRAM SPECIFIC OUTCOME'S (PSO's)

PSO1: To analyze and design hardware / software systems using various architectural / design patterns, standard notations, procedures and algorithms.

PSO2: To design and develop solutions for real world problems by applying computer and communication network technologies





Department of Information Technology

Vision of the Department

Transforming IT aspirants into technocrats for adapting to rapid technological advancements in Industry and contributing to society.

Mission

- M1: Integrating academics and research to address challenges of industry.
- M2: Maintaining labs with hardware and software where students and faculty can enhance their technological skills.
- M3: Providing IT solutions to problems related to interdisciplinary fields.
- M4: Bringing out graduates with high quality knowledge, innovation, ethical and social responsibilities.

Program Educational Objectives (PEOs)

- PEO1: Design and develop systems and applications to solve real life problems.
- PEO2: Develop professionalism, communication skills, leadership and team work enabling them to adapt the current trends in technology.
- PEO3: To inculcate an attitude for life-long learning.
- PEO4: To prepare students for higher education

PROGRAM SPECIFIC OUTCOME'S (PSO's)

- To analyze and predict solutions for global society using machine learning tools and techniques.
- To provide solutions for real world problems by applying latest tools and technologies.





Department of Electronics & Communication Engineering

Vision of Department

To emerge as one of the leading Electronics and Communication Engineering programs in the region committed to achieve excellence consistent with industrial and social demands.

Mission of Department

- M1: Providing professional competences in the field of Electronics and Communication engineering through modular programs in addition to existing curriculum.
- M2: Offering state of art pedagogy methods to promote multidisciplinary activities for enhancing critical thinking and problem solving capabilities.
- M3: Encouraging students to adapt innovative approach to meet current and future industry and social demands
- M4: Promoting holistic research based approach by providing training in latest technologies through collaboration with industry and engineering professional societies.

Program Educational Objectives (PEOs)

PEO1: The graduate will be able to exhibit professional competency in the field of Electronics and Communication engineering to synthesize optimal and socially acceptable solutions.

PEO2: The graduate will be able to develop innovative ideas and find creative solutions to meet professional challenges.

PEO3: The graduate will be able to pursue post graduate and research based programs to outrival in employment, higher education and industries in allied and diverse fields.

PEO4: The graduate will be able to demonstrate high professional ethics and strive for lifelong learning while working in a team or as an individual.

PROGRAM SPECIFIC OUTCOME'S (PSO's)

PSO1: Ability to adapt advancement in Electronics & Communication Technology and render appropriate professional services. PSO2: Quest to upgrade & contribute towards the solution of recent

PSO2: Quest to upgrade & contribute towards the solution of recent challenges in Electronics & Communication Engineering with the help of modern tools.

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Department of Electrical Engineering

Vision of Department

To evolve as a leading program in the field of Electrical Engineering with exposure to contemporary technologies by encouraging ignited minds for future professional challenges.

Mission of Department

- Providing interface with the industry, educational organizations and alumni in the field of curriculum development, training for empirical social development & changing needs of society.
- Engaging in effective teaching, learning using ICT, modular programs, exposure to virtual simulating environment.
- Enabling sustainable and cost-effective innovations, showcasing the importance of green energy technology with a focus on efficient energy management system.
- Promoting holistic development among students and faculty by engaging in joint ventures with internationally acclaimed academia & industrial organizations.

Program Educational Objectives (PEOs)

PEO1: Outrival in employment, higher education, globalized technology services and to be competent entrepreneur.

PEO2: Communicate conceptual understanding of core Electrical Engineering courses which enable electrical technocrats to analysis, evaluate, and provide intelligent elucidation to meet professional challenges.

Pe03: Capable to design and implement innovative and cost effective solutions of complex engineering problems in multidisciplinary environment considering societal and environmental contexts.

PE04: Demonstrate leadership qualities, effective communication skills and strive for lifelong learning for career enhancement and exhibit high professional ethics.

PROGRAM SPECIFIC OUTCOME'S (PSO's)

PSO 1: Equipped with applied knowledge of allied domain to integrate and efficiently manage professionally diverse environment.

PSO 2: Quest to upgrade and contribute toward the solution of recent challenges in electrical engineering with the help of modern tools.



Department of Mechanical Engineering

Vision of Department

To become a recognized center of excellence for aspiring technocrats in Mechanical Engineering.

Mission of Department

Providing contemporary and advanced knowledge of Mechanical Engineering amongst the students through a curriculum consisting of modern laboratories, interdisciplinary subjects and industrial trainings; created by means of industry –

institute interactions.

- Creating culture of excellence in teaching learning using hi-tech techniques and collaborating with other institutions along with focus on faculty development programmers.
- Promoting design and research environment, incorporating latest software's in mechanical domain with a focus on enabling viable and economical innovations for the benefit of the society at large.
- Encouraging comprehensive development of students by adopting lifelong learning and sharing for enhancing employability.

Program Educational Objectives (PEOs)

PEO 1:The graduates will have quality education to keep pace with advancement in technologies, hence encouraging them to contribute to the field of education & research, and industry related to mechanical engineering as well as other allied fields.

PEO 2:The graduates will attain essential competence in basic sciences and mechanical engineering fundamentals required to formulate, analyze and solve engineering problems that will empower them to have effective career in core mechanical as well as interdisciplinary industries, and as entrepreneurs.

PEO 3:The graduates will enhance their knowledge and soft skills, encouraging them to innovate and develop sustainable solutions for a progressive society.

PEO 4:The graduates will maintain high ethical standards, establish potential leadership & teamwork abilities, inculcate effective interpersonal skills and engage in lifelong learning for a successful professional career.

PROGRAM SPECIFIC OUTCOME'S (PSO's)

PSO 1: Ability to study and analyze useful and innovative materials and related technology for the benefit of industry and society.

PSO 2: Ability to develop proficiency in designing through latest and advanced software tools related to mechanical engineering



ARTIFICIAL INTELLIGENCE AND THE FUTURE OF HEALTHVARE

1. Diagnosis and Treatment

- Image Analysis: AI-powered algorithms can analyze medical images, such as X-rays, CT scans, and MRIs, with greater accuracy and speed than human radiologists. This can lead to earlier detection of diseases and more precise diagnoses.
- Personalized Treatment Plans: By analyzing vast amounts of patient data, AI can help develop personalized treatment plans tailored to individual patients' genetic makeup, medical history, and lifestyle factors.
- Predictive Analytics: AI models can predict the likelihood of certain diseases or adverse health events, enabling proactive interventions and preventive care.

2. Drug Discovery and Development

- Drug Repurposing: AI can identify new uses for existing drugs, accelerating the drug discovery process and reducing development costs.
- Molecular Modeling: AI can simulate the behavior of molecules at the atomic level, helping researchers design more effective drugs with fewer side effects.
- Clinical Trial Optimization: AI can optimize clinical trial design and recruitment, leading to faster and more efficient drug development.

3. Medical Research

• Genomic Analysis: AI can analyze vast genomic datasets to identify genetic mutations associated with diseases and develop targeted therapies.

- Natural Language Processing: AI can process large volumes of medical literature, extracting valuable insights and accelerating scientific research.
- Robotic Surgery: AI-powered robotic systems can perform complex surgical procedures with greater precision and accuracy than traditional methods.

4. Patient Monitoring and Care

- Remote Patient Monitoring: AI-enabled devices can monitor patients' vital signs and symptoms remotely, allowing for early detection of health issues and more efficient care management.
- Virtual Assistants: AI-powered virtual assistants can provide patients with personalized health information, reminders, and support.

Challenges and Ethical Considerations

While the potential benefits of AI in healthcare are significant, there are also challenges and ethical considerations to address. These include data privacy and security, algorithm bias, and the potential for job displacement.

As AI continues to advance, it is essential to develop ethical guidelines and regulations to ensure that its benefits are realized while minimizing risks. By addressing these challenges and harnessing the power of AI, we can create a future where healthcare is more accessible, effective, and personalized.

> Aryan Sharma 123/20, 5th Sem- CSE

The Art of Leadership: A Masterclass in Influence

Leadership is not merely a title or a position; it's a profound art that requires a delicate blend of intellect, empathy, and inspiration. Effective leaders don't just command; they inspire, motivate, and guide their teams towards shared goals. This article explores the key facets of the art of leadership, offering insights into the qualities and strategies that distinguish exceptional leaders from the rest.

The Foundation: Character and Integrity

At the heart of effective leadership lies a solid foundation of character and integrity. Trust is the cornerstone of any successful leader-follower relationship. When individuals perceive their leader as honest, ethical, and trustworthy, they are more likely to follow their guidance and be committed to the team's mission.

The Power of Empathy: Understanding and Connecting

Empathy is another essential component of leadership. It's the ability to understand and share the feelings of others. By putting themselves in their team members' shoes, leaders can foster a sense of connection, build trust, and create a supportive work environment. Empathetic leaders are more likely to motivate their teams, resolve conflicts effectively, and inspire loyalty.

The Art of Communication: Speaking and Listening

Effective communication is a fundamental skill for any leader. It involves both speaking clearly and concisely, as well as actively listening to others. Leaders who can articulate their vision, inspire their teams, and provide constructive feedback are more likely to achieve their goals. Additionally, by listening attentively to their team members, leaders can gain valuable insights, address concerns, and build stronger relationships.

The Importance of Vision: Setting the Course

A clear and inspiring vision is essential for any successful leader. It provides a sense of direction, motivates team members, and aligns everyone towards a common goal. Effective leaders can articulate their vision in a way that is both compelling and achievable, inspiring their teams to strive for excellence.

The Power of Inspiration: Motivating and Empowering

Great leaders are also great motivators. They have the ability to inspire their teams to overcome challenges, reach their full potential, and achieve extraordinary results. By recognizing and rewarding accomplishments, providing opportunities for growth, and creating a positive work environment, leaders can foster a sense of motivation, engagement, and loyalty among their team members.

The Importance of Continuous Learning: Adapting and Evolving

In today's rapidly changing world, it's essential for leaders to be lifelong learners. By staying up-to-date on industry trends, developing new skills, and seeking out opportunities for growth, leaders can better adapt to changing circumstances, lead their teams through uncertainty, and ensure long-term success.

In conclusion, the art of leadership is a complex and multifaceted endeavor that requires a combination of character, empathy, communication, vision, inspiration, and continuous learning. By mastering these key elements, leaders can create a positive and productive work environment, inspire their teams to achieve great things, and make a lasting impact on the world

Ms. Jasmine Kaur Asst. Professor APSH Deptt.



THE RISE OF AI IN 2022: A YEAR OF BREAKTHROUGHS

2022 marked a significant year for artificial intelligence (AI), with groundbreaking advancements across various domains. From natural language processing to computer vision, AI technologies continued to evolve at an unprecedented pace, transforming industries and society as a whole.

1. Natural Language Processing (NLP) Advancements

- Large Language Models: Models like GPT-3 and LaMDA demonstrated remarkable capabilities in generating human-quality text, translating languages, writing different kinds of creative content, and answering your questions in an informative way.
- **Conversational AI:** AI-powered chatbots and virtual assistants became more sophisticated, capable of understanding complex queries and engaging in more natural conversations.

2. Computer Vision and Image Generation

- Generative Adversarial Networks (GANs): GANs produced stunningly realistic images and artwork, blurring the lines between real and generated content.
- Object Detection and Recognition: AI algorithms achieved new heights in accurately detecting and recognizing objects within images and videos, with applications in autonomous vehicles, surveillance, and medical imaging.

3. AI in Healthcare

• **Drug Discovery:** AI accelerated drug discovery by analyzing vast datasets and

predicting potential drug candidates.

• **Medical Image Analysis:** AI-powered tools improved the accuracy and efficiency of diagnosing diseases from medical images.

4. AI in Business and Industry

- **Customer Service:** AI-powered chatbots and virtual assistants provided personalized customer support and improved customer satisfaction.
- Supply Chain Optimization: AI helped optimize supply chains by predicting demand, managing inventory, and improving logistics.
- Fraud Detection: AI algorithms became more effective in detecting fraudulent activities, protecting businesses and consumers.

5. Ethical Considerations and Challenges

- **Bias:** Addressing bias in AI algorithms to ensure fairness and equity.
- Job Displacement: Concerns about the potential impact of AI on employment and job displacement.
- **Privacy and Security:** Protecting sensitive data and ensuring the responsible use of AI.

As AI continues to evolve, it is essential to address these challenges and ensure that its benefits are harnessed for the betterment of society. 2022 marked a significant milestone in the development of AI, and we can expect even more exciting advancements in the years to come.

> Jaskirat Singh 100/21 2nd Sem- CSE





Technological Advancements to Streamline Work

The workplace has undergone a dramatic transformation in recent years, largely due to advancements in technology. These technological innovations have revolutionized the way we work, making tasks more efficient, collaborative, and productive. Here are some of the key technological advancements that have streamlined work:

Cloud Computing

Cloud computing has transformed the way businesses store and access data. By moving data and applications to remote servers, cloud computing eliminates the need for on-premise hardware and software. This not only reduces costs but also improves scalability and flexibility.

Automation

Automation tools have become increasingly sophisticated, enabling businesses to automate repetitive and time-consuming tasks. This frees up employees to focus on more strategic and creative work. Examples of automation tools include robotic process automation (RPA), artificial intelligence

(AI), and machine learning.

Collaboration Tools

Collaboration tools have made it easier for teams to work together, regardless of their location. Tools like Slack, Microsoft Teams, and Google Workspace enable real-time communication, file sharing, and project management. This has improved productivity and fostered a more collaborative work environment.

Mobile Technology

The rise of mobile technology has empowered employees to work from anywhere. Smartphones and tablets provide access to essential tools and applications, allowing employees to stay connected and productive on the go. This has led to a more flexible and work-life balance-friendly work environment.

Artificial Intelligence (AI)

AI is rapidly transforming the workplace. AIpowered tools can automate tasks, analyze data, and even make decisions. This can help businesses improve efficiency, reduce costs, and gain a competitive advantage.

Internet of Things (IoT)

The IoT refers to the network of connected devices that collect and exchange data. IoT devices can be used to automate processes, improve efficiency, and gather valuable insights. For example, IoT sensors can be used to monitor inventory levels, optimize energy consumption, and track equipment performance.

Data Analytics

Data analytics tools enable businesses to extract insights from large datasets. This information can be used to make informed decisions, improve operations, and identify new opportunities.

These technological advancements have significantly streamlined work processes and improved productivity. By embracing these innovations, businesses can stay competitive, enhance employee satisfaction, and drive growth

Jeet Singh 2/19 7thSem,ME

Wireless Communication: Bridging the Digital Divide

Introduction

In today's interconnected world, wireless communication has become an integral part of our daily lives. From smartphones and laptops to smart homes and IoT devices, wireless technology underpins numerous aspects of our modern existence. This article delves into the fascinating realm of wireless communication, exploring its evolution, key technologies, and the immense impact it has had on society.

Evolution of Wireless Communication

The journey of wireless communication began with the invention of the telegraph in the 19th century. However, it wasn't until the advent of radio technology in the early 20th century that wireless communication truly took off. Radio waves, capable of traveling through the air, provided a means to transmit information over vast distances.

The subsequent decades witnessed significant advancements in wireless technology. Television broadcasting, cellular networks, and satellite communication revolutionized the way we consume media, connect with others, and access information. The development of Wi-Fi and Bluetooth enabled seamless connectivity between devices, paving the way for the proliferation of smartphones and laptops.



Key Wireless Technologies

- **Cellular Networks:** 2G, 3G, 4G, and 5G networks form the backbone of modern mobile communication. These networks provide voice and data services to billions of users worldwide. 5G, the latest generation of cellular technology, promises faster speeds, lower latency, and greater capacity, enabling new applications such as autonomous vehicles and virtual reality.
- **Wi-Fi:** Wi-Fi has become synonymous with wireless internet access. It allows devices to connect to a network and access the internet without the need for physical cables. Wi-Fi has played a crucial role in the growth of the internet and the development of smart homes.
- **Bluetooth:** Bluetooth is a short-range wireless technology used for connecting devices together. It is commonly used for connecting headsets to smartphones, transferring files between devices, and enabling wireless printing.
- **Satellite Communication:** Satellite communication involves transmitting data through satellites orbiting the Earth. It is used for various purposes, including television broadcasting, telecommunications, and navigation. Satellite technology is particularly valuable in remote areas where terrestrial infrastructure is limited.

Impact of Wireless Communication

Wireless communication has had a profound impact on society in numerous ways. It has:

- **Improved Connectivity:** Wireless technology has connected people across the globe, breaking down barriers and fostering communication and collaboration.
- Enhanced Efficiency: Wireless solutions have streamlined business processes, increased productivity, and reduced costs in various industries.
- **Enabled Innovation:** Wireless communication has enabled the development of new products and services, from wearable devices to smart cities.
- **Bridged the Digital Divide:** Wireless technology has helped to bridge the digital divide by providing access to information and services to underserved communities.

Wireless communication has come a long way since its early days. From humble beginnings with radio waves to the sophisticated networks of today, wireless technology has transformed the way we live, work, and interact. As technology continues to evolve, we can expect even more exciting developments in the field of wireless communication, further shaping our digital future.

> Gurdeep Singh 5/20 5th Sem -ME



THE FUTURE OF CONNECTIVITY

Beyond the Horizon

As wireless communication continues to evolve, several exciting possibilities are emerging.

1. Li-Fi

Li-Fi, short for Light Fidelity, is a wireless technology that uses visible light to transmit data. It offers significantly higher speeds, lower latency, and greater security compared to traditional Wi-Fi. Li-Fi can be used in various settings, including offices, homes, and public spaces.

2. Cognitive Radio

Cognitive radio technology allows devices to intelligently adapt to changes in the wireless environment. It can dynamically adjust its operating frequency and power level to avoid interference and maximize spectrum utilization. Cognitive radio has the potential to improve the efficiency and reliability of wireless networks.

3. Wireless Power Transfer

Wireless power transfer (WPT) enables the transmission of electrical energy without the need for physical wires. WPT has applications in various fields, including consumer electronics, medical devices, and electric vehicles. Advancements in WPT technology could revolutionize the way we power our devices and vehicles.

4. Integrated Networks

The convergence of different wireless technologies, such as cellular networks, Wi-Fi, and Bluetooth, can create integrated networks that provide seamless connectivity across various devices and environments. Integrated networks can offer enhanced user experience, improved efficiency, and reduced costs.

5. Space-Based Communication

Space-based communication systems, such as satellite networks and low-Earth orbit (LEO) constellations, are playing an increasingly important role in providing global connectivity. These systems are particularly valuable in remote areas and disaster relief efforts.

Conclusion

The future of wireless communication is filled with promise. As technology continues to advance, we can expect to see innovative solutions that will enhance our connectivity, improve our lives, and drive economic growth. By addressing the challenges and embracing the opportunities, we can shape a future where wireless communication plays a vital role in connecting people and enabling a more sustainable and prosperous world.

> Sejdeep Kour 25/20 5thsem,CSE

Machine Learning in Natural Language Processing A Revolution in Communication

Natural language processing (NLP) is a field of artificial intelligence that focuses on the interaction between computers and human language. Machine learning has played a pivotal role in advancing NLP, enabling computers to understand, interpret, and generate human language in a more natural and effective way.

Applications of Machine Learning in NLP

- **Machine Translation:** Machine learning algorithms have significantly improved the accuracy and fluency of machine translation systems, making it easier for people to communicate across language barriers.
- Sentiment Analysis: Sentiment analysis uses machine learning to identify and classify the sentiment expressed in text, such as positive, negative, or neutral. This has applications in social media monitoring, customer feedback analysis, and market research.
- **Text Summarization:** Machine learning algorithms can automatically summarize large amounts of text into concise summaries, saving time and effort for readers.
- Chatbots and Virtual Assistants: Chatbots and virtual assistants powered by machine learning can engage in natural language conversations with users, providing information, completing tasks, and offering personalized assistance.
- Information Retrieval: Machine learning techniques can improve the accuracy and relevance of search engine results by understanding the intent behind search queries and matching them to the most relevant content.

Challenges and Future Trends

While machine learning has made significant strides in NLP, several challenges remain:

• **Contextual Understanding:** Machines often struggle to understand the context of language, leading to misunderstandings and inaccuracies.

- **Ambiguity:** Natural language can be ambiguous, making it difficult for machines to interpret correctly.
- **Data Quality:** The quality and quantity of training data are crucial for developing effective NLP models.

Looking ahead, we can expect to see continued advancements in machine learning for NLP, including:

- **Contextual Understanding:** Developing techniques to improve machines' ability to understand the context of language.
- **Multimodal NLP:** Combining NLP with other modalities, such as vision and audio, to enable more comprehensive understanding of human communication.
- Ethical Considerations: Addressing ethical concerns related to bias, privacy, and the potential for misuse of NLP technologies.

Machine learning has revolutionized the field of natural language processing, enabling computers to understand, interpret, and generate human language in a more natural and effective way. As machine learning continues to advance, we can expect to see even more innovative applications that will transform the way we communicate and interact with technology.

> Deepak Kumar 128/20 5th Sem-CSE



The Intersection of Technology and Mathematics:

A Powerful Partnership

Technology and mathematics have always been intertwined, with advancements in one field often driving innovations in the other. From the early days of computing to the cutting-edge technologies of today, mathematics has played a crucial role in shaping the development of technology.

Key Areas of Intersection

- Algorithm Development: Algorithms, the fundamental building blocks of computer programs, are often based on mathematical principles. Mathematics provides the tools and techniques for designing efficient and effective algorithms, ranging from sorting and searching to machine learning and optimization.
- Data Science and Analytics: Data science, which involves extracting insights from large datasets, relies heavily on mathematical concepts. Statistics, probability theory, and linear algebra are essential for tasks like data cleaning, feature engineering, and model building.
- Cryptography: Cryptography, the practice of secure communication, is deeply rooted in mathematics. Number theory and algebra provide the foundations for encryption algorithms that protect sensitive information from unauthorized access.
- Artificial Intelligence: Artificial intelligence (AI) systems, particularly those based on machine learning, often utilize mathematical techniques. Neural networks, a type of AI model, are inspiring by the structure and function of the human br and rely on linear algebra and calculus.
- Computer Graphics: Computer graphics, us in video games, movies, and simulations, hear rely on mathematics. Linear algebra is essen for representing and manipulating 3D object while calculus is used for rendering realise lighting and shading effects.



P. + JL + 15

Challenges and Future Trends

- Computational Complexity: As technology advances, the complexity of problems we aim to solve increases. This often requires developing new mathematical techniques or adapting existing ones to handle larger datasets and more complex models.
- Emerging Technologies: New technologies like quantum computing and blockchain are pushing the boundaries of mathematics. These fields require developing novel mathematical frameworks and algorithms to address their unique challenges.



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Interdisciplinary Collaboration: The increasing complexity of technological problems necessitates collaboration between mathematicians, computer scientists, engineers, and other experts. Interdisciplinary teams can bring diverse perspectives and expertise to tackle complex challenges.

The relationship between technology and mathematics is symbiotic. Advancements in technology often require new mathematical tools, while mathematical breakthroughs can lead to innovative technological applications. As technology continues to evolve, the role of mathematics will become even more critical in shaping our future.

Emotional Intelligence: The Key to Success Introduction

Emotional intelligence, often abbreviated as EI, is a crucial skill that goes beyond traditional measures of intelligence like IQ. It refers to the ability to understand, manage, and utilize emotions effectively. While IQ measures cognitive abilities, EI encompasses our ability to connect with others, empathize, and navigate social situations.

Components of Emotional Intelligence

- Self-awareness: Recognizing and understanding one's own emotions, strengths, and weaknesses.
- Self-regulation: Managing one's emotions effectively, controlling impulses, and adapting to change.

Social awareness: Understanding the emotions, perspectives, and needs of others.

 Relationship management: Building and maintaining positive relationships, managing conflict, and inspiring others.

Why Emotional Intelligence Matters

- Improved Relationships: EI fosters stronger, more fulfilling relationships by enhancing empathy, communication, and conflict resolution skills.
- Enhanced Leadership: Effective leaders possess high emotional intelligence, enabling them to inspire, motivate, and build trust within their teams.
- Better Decision-Making: El helps individuals make informed decisions by considering emotions and their impact on situations.
- Increased Resilience: People with high El are better equipped to cope with stress, adversity, and setbacks.
- **Enhanced Well-being:** Emotional intelligence contributes to overall well-being by promoting positive emotions



and reducing stress.

Developing Emotional Intelligence

- **Self-Reflection:** Regularly reflecting on one's emotions and behaviors can improve self-awareness.
- **Empathy Training:** Practicing empathy by actively listening to others and trying to understand their perspectives.
- Stress Management Techniques: Learning and practicing stress management techniques, such as mindfulness, meditation, or deep breathing.
- **Social Skills Development:** Enhancing social skills through courses, workshops, or role-playing exercises.
- **Feedback Seeking:** Seeking feedback from others to gain insights into one's emotional intelligence.

Conclusion

Emotional intelligence is a valuable asset that can significantly impact personal and professional success. By cultivating self-awareness, self-regulation, social awareness, and relationship management skills, individuals can enhance their well-being, build stronger relationships, and navigate challenges more effectively.

Inderjeet Singh 88/20 5th Sem-ME

CHATBOTS AND VIRTUAL ASSISTANTS REVOLUTIONIZING HUMAN-COMPUTER INTERACTION

In recent years, the rise of artificial intelligence (AI) has led to the development of sophisticated chatbots and virtual assistants that are transforming the way we interact with technology. These AI-powered tools are designed to simulate human conversation, providing assistance, information, and services in a natural and intuitive manner.

What are Chatbots and Virtual Assistants?

Chatbots and virtual assistants are essentially computer programs that can engage in conversations with humans. They use natural language processing (NLP) to understand and respond to user queries, making them feel like they are interacting with a real person.

- **Chatbots:** These are typically designed for specific tasks, such as customer service, sales, or providing information. They can be integrated into websites, messaging apps, or social media platforms.
- Virtual Assistants: These are more general-purpose AI assistants that can perform a wide range of tasks, such as setting reminders, playing music, and controlling smart home devices. Examples include Siri, Alexa, and Google Assistant.



Challenges and Limitations

While chatbots and virtual assistants have made significant strides, they still face certain challenges:

Natural Language Understanding: Al

is still developing its ability to understand complex language and context.

Emotional Intelligence: Chatbots and virtual assistants often struggle to recognize and respond to human emotions.

Privacy Concerns: The collection and use of personal data by Al-powered tools raise privacy concerns.

Future Trends

As AI technology continues to advance, we can expect chatbots and virtual assistants to become even more sophisticated and capable. Future trends may include:

- Increased Personalization: Alpowered tools will be able to tailor their responses to individual users based on their preferences and behavior.
- Integration with IoT: Chatbots and virtual assistants will be able to control
- and interact with smart home devices.
- Enhanced Emotional Intelligence: Al will become better at recognizing and responding to human emotions.

In conclusion, chatbots and virtual assistants are revolutionizing the way we interact with technology. As these AI-powered tools continue to evolve, they will play an increasingly important role in our daily lives.

Him can help you? Him can help you? Manpreet Kaur 116/21 2nd Sem-ECE

How do They Work?

Chatbots and virtual assistants use a combination of techniques, including:

- Natural Language Processing (NLP): This allows the AI to understand and interpret human language.
- Machine Learning: This enables the AI to learn from interactions and improve its responses over time.
- **Dialog Management:** This helps the Al manage conversations and keep track of the context.

Benefits of Chatbots and Virtual Assistants The use of chatbots and virtual assistants offers numerous benefits, including:

- Improved Customer Service: Chatbots can provide 24/7 customer support, reducing wait times and improving customer satisfaction.
- Increased Efficiency: Automation of tasks through chatbots and virtual assistants can streamline processes and save time.
- **Enhanced User Experience:** Alpowered tools can provide personalized recommendations and assistance, making interactions more enjoyable.
- **Cost Savings:** Chatbots can reduce the need for human customer service agents, leading to cost savings.

Accessibility: Chatbots and virtual assistants can make information and services accessible to a wider range of people, including those with disabilities.

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Optimism, the belief that positive outcomes are more likely to occur, has a profound impact on our lives. It can influence our thoughts, behaviors, and overall well-being. While optimism is often seen as a personality trait, it can also be cultivated and strengthened through various strategies.

The Benefits of Optimism

- Improved Health: Research has shown that optimism is linked to better physical health, including lower rates of heart disease, stroke, and depression.
- Enhanced Resilience: Optimistic individuals are better equipped to cope with challenges and setbacks, bouncing back more quickly.
- Stronger Relationships: Optimism fosters positive social interactions and helps build stronger relationships with others.
- Increased Motivation: A positive outlook can motivate individuals to pursue their goals with greater determination and perseverance.
- Higher Well-being: Optimism contributes to overall well-being by promoting positive emotions and reducing stress.

Cultivating Optimism

- **Positive Affirmations:** Repeating positive statements to oneself can help shift your mindset towards optimism.
- **Gratitude Practice:** Focusing on the things you are grateful for can cultivate a positive outlook.
 - Mindfulness: Mindfulness techniques,

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such as meditation and deep breathing, can help reduce negative thoughts and promote optimism.

- Visualization: Visualizing positive outcomes can help create a more optimistic mindset.
- Surround Yourself with Positive People: Spending time with optimistic individuals can influence your own perspective.

Overcoming Pessimism

- **Challenge Negative Thoughts:** When negative thoughts arise, challenge them with evidence to the contrary.
- Set Realistic Goals: Setting achievable goals can help build confidence and reduce pessimism.
- Seek Support: Talking to friends, family, or a therapist can provide support and guidance.

Optimism is a powerful force that can positively impact our lives in numerous ways. By cultivating optimism and challenging negative thoughts, we can improve our well-being, build stronger relationships, and achieve our goals.

Jasmine Kaur

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BLOCKCHAIN: THE FOUNDATION OF A NEW DIGITAL ECONOMY

Introduction

Blockchain technology, a distributed ledger system, has emerged as a revolutionary force in the digital world. It offers a secure, transparent, and decentralized way to record and verify transactions, making it a promising foundation for a new digital economy.

How Blockchain Works

- Distributed Ledger: A blockchain is a distributed ledger, meaning it's not stored in a single location but is replicated across multiple computers in a network. This makes it resistant to censorship and tampering.
- Blocks: Each block in a blockchain contains a timestamp, transaction data, and a cryptographic hash of the previous block. This creates a chain of blocks, hence the name "blockchain."
- **Consensus Mechanism:** To ensure that all participants in the network agree on the state of the blockchain, a consensus mechanism is used. This can be proof of work (PoW), proof of stake (PoS), or other methods.
 - **Immutability:** Once a block is added to the blockchain, it cannot be altered or deleted. This ensures the security and integrity of the data stored on the network.

Applications of Blockchain

- **Cryptocurrencies:** Bitcoin and Ethereum are the most well-known cryptocurrencies that use blockchain technology. They provide a decentralized and secure way to exchange value.
- **Supply Chain Management:** Blockchain can track the movement of goods through a supply chain, ensuring transparency, traceability, and reducing fraud.
- Identity Management: Blockchain can be used to create secure digital identities, protecting personal information and preventing identity theft.
- Smart Contracts: Smart contracts are self-executing contracts with the terms directly written into code. They can automate processes and reduce the need for intermediaries.
- **Voting Systems:** Blockchain-based voting systems can ensure the integrity and security of elections, preventing fraud and increasing voter confidence.

Challenges and Opportunities

Scalability: As the number of transactions on a blockchain increases, the network can become congested and slow. Scaling solutions are being developed to address this challenge.

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Energy Consumption: Proof-of-work consensus mechanisms, like the one used by Bitcoin, can be energy-intensive. Alternative mechanisms like proof-of-stake are being explored to reduce energy consumption.

Regulatory Challenges: The regulatory landscape for blockchain technology is still evolving, and there are concerns about its potential impact on traditional financial systems and industries.

Interoperability: Ensuring that different blockchains can communicate and interact with each other is a key challenge.

Conclusion

Blockchain technology has the potential to revolutionize various industries and create new opportunities. Its decentralized, secure, and transparent nature offers a promising foundation for a new digital economy. As the technology continues to evolve and mature, we can expect to see even more innovative applications emerge.

Gaganpreet Kour 46/21 2nd Sem,ECE

QUANTUM COMPUTING A LEAP INTO THE FUTURE

Quantum computing, a revolutionary technology that harnesses the principles of quantum mechanics, has the potential to solve problems that are intractable for classical computers. In 2022, quantum computing continued to make significant strides, with researchers and companies exploring its applications across various fields.

Key Trends in Quantum Computing in 2022 >

- Increased Commercialization: Quantum computing hardware began to become more commercially available, with companies like IBM, Google, and Honeywell offering cloud-based quantum computing services. This made quantum computing more accessible to researchers and businesses.
- Quantum Supremacy: While the term "quantum supremacy" remains a subject of debate, several research groups claimed to have achieved it, demonstrating that quantum computers can perform certain tasks faster than classical computers.

- Applications and Use Cases: Researchers and businesses explored potential applications of quantum computing in various fields, including drug discovery, materials science, optimization problems, and cryptography.
- Error Correction: Addressing the challenge of quantum decoherence, which can lead to errors in quantum computations, remained a crucial area of research. Quantum error correction techniques were developed to improve the reliability and accuracy of quantum computers.
- Hybrid Quantum-Classical Computing: Combining quantum and classical computing resources can be a powerful

problems that are intractable for classical computers, such as logistics, finance, and machine learning.

- **Cryptography:** While quantum computers pose a threat to classical cryptographic algorithms, they can also be used to develop new quantum-resistant cryptographic techniques.
- **Challenges and Future Outlook**
 - Scalability: Building large-scale quantum computers remains a significant challenge due to factors like qubit stability and decoherence.
 - **Error Correction:** Developing effective quantum error correction techniques is essential for achieving fault-tolerant



approach to solving complex problems. Hybrid systems leverage the strengths of both types of computers, allowing for a more versatile and efficient computing architecture.

Promising Applications of Quantum Computing

- **Drug Discovery:** Quantum computers can accelerate the process of drug discovery by simulating molecular interactions and predicting the properties of new compounds.
- **Materials Science:** Quantum computing can help design new materials with desired properties, such as superconductors or high-temperature materials.
- **Optimization Problems:** Quantum algorithms can efficiently solve optimization

quantum computing.

Applications and Use Cases: Identifying practical applications for quantum computing and developing algorithms that can exploit its unique capabilities is an ongoing area of research.

Despite these challenges, the future of quantum computing looks promising. As researchers continue to make progress in building and programming quantum computers, we can expect to see even more exciting applications and breakthroughs in this field.

> Mehak Sharma 77/21 3rd Sem-CSE

The world is facing a pressing challenge: the need to transition away from fossil fuels and towards cleaner, more sustainable energy sources. Renewable energy, derived from natural resources that replenish themselves over time, offers a promising solution to this challenge. By harnessing the power of the sun, wind, water, and other renewable sources, we can reduce our reliance on fossil fuels, mitigate climate change, and create a more sustainable future.

Types of Renewable Energy

- Solar Energy: Solar power is generated by converting sunlight into electricity using photovoltaic cells. Solar panels can be installed on rooftops, in solar farms, or even integrated into building materials.
- Wind Energy: Wind power is produced by harnessing the kinetic energy of the wind to turn turbines. Wind farms can be located onshore or offshore.
- Hydropower: Hydropower is generated by using the force of flowing water to turn turbines. This can be achieved through dams, tidal power plants, or wave energy converters.
- Bioenergy: Bioenergy is produced by burning biomass, such as wood, agricultural waste, or algae. It can be used for heating, electricity generation, or transportation fuels.
- Geothermal Energy: Geothermal energy is extracted from the heat stored in the Earth's crust. It can be used for heating, cooling, and electricity generation.

Benefits of Renewable Energy

- Environmental Sustainability: Renewable energy sources produce significantly fewer greenhouse gas emissions than fossil fuels, helping to mitigate climate change. They also reduce air and water pollution.
- Energy Independence: By relying on renewable energy, countries can reduce their dependence on foreign oil and gas, enhancing energy security.
- Economic Growth: The renewable energy industry is creating jobs and driving economic development in many regions.
- Resilience: Renewable energy systems can be more resilient to disruptions, such as natural disasters or supply chain issues.



RENEWABLE ENERGY A SUSTAINABLE FUTURE



Challenges and Opportunities

While renewable energy offers many benefits, there are also challenges to overcome. These include the initial cost of installation, intermittency (the variability of energy production), and grid integration issues. However, technological advancements and government policies are addressing these challenges, making renewable energy more affordable and accessible.

The transition to a renewable energy future requires a concerted effort from governments, businesses, and individuals. By investing in renewable energy technologies, promoting energy efficiency, and adopting sustainable practices, we can create a cleaner, healthier, and more prosperous world for generations to come.

Mohd. Irfan 160/19 7thSem.ME





STRESS MANAGEMENT Strategies for a Healthier Life

perfectionism or pessimism, can make individuals more susceptible to stress.

Effective Stress Management Techniques

- **Mindfulness and Meditation:** Practicing mindfulness and meditation can help reduce stress by focusing on the present moment and calming the mind.
- **Exercise:** Regular physical activity can help alleviate stress, improve mood, and boost energy levels.
- **Healthy Lifestyle:** A balanced diet, adequate sleep, and avoiding excessive caffeine and alcohol can contribute to overall well-being and stress reduction.
- **Time Management:** Effective time management strategies can help reduce feelings of overwhelm and improve productivity.
- **Social Support:** Building strong relationships with friends and family can provide emotional support and reduce stress.
- **Relaxation Techniques:** Techniques like deep breathing, progressive muscle relaxation, and visualization can help calm the body and mind.
- **Problem-Solving:** Identifying and addressing the root causes of stress can help manage it more effectively.

Seeking Professional Help

If stress is significantly impacting your life and you are struggling to cope, it may be helpful to seek professional help. A therapist or counselor can provide guidance, support, and coping strategies.

Conclusion

Effective stress management is essential for maintaining a healthy and balanced life. By incorporating various techniques into your daily routine, you can better manage stress, improve your well-being, and enhance your overall quality of life.

> Mandeep Singh 14/21 3rd Sem- ME

Stress is a common experience in today's fast-paced world. While a certain amount of stress can be motivating, excessive stress can have negative impacts on our physical and mental health. Effective stress management techniques can help individuals cope with challenges and maintain a balanced lifestyle.

Understanding Stress

Stress is a physiological and psychological response to perceived threats or demands. It can manifest in various ways, including:

- Physical Symptoms: Headaches, fatigue, muscle tension, digestive problems
- **Emotional Symptoms:** Anxiety, irritability, depression, mood swings
- **Cognitive Symptoms:** Difficulty concentrating, forgetfulness, indecisiveness

Causes of Stress

- Life Events: Major life events such as job changes, relationship issues, or financial difficulties can be significant sources of stress.
- **Daily Pressures:** Everyday stressors like work deadlines, traffic congestion, and family responsibilities can contribute to stress.
- Personality Traits: Certain personality traits, such as

2022 A YEAR OF TECHNOLOGICAL BREAKTHROUGHS

The year 2022 marked a significant period of technological advancements across various domains. From artificial intelligence to renewable energy, breakthroughs in these fields have the potential to shape our future. This article explores some of the most notable technological trends that emerged in 2022.

Artificial Intelligence and Machine Learning

- **Generative AI:** Models like DALL-E 2 and Stable Diffusion demonstrated impressive capabilities in generating realistic images, text, and other creative content.
- **Large Language Models (LLMs):** LLMs like GPT-3 and LaMDA made significant strides in natural language understanding and generation, enabling more human-like conversations and content creation.
- Al in Healthcare: Al was increasingly used for tasks such as drug discovery, medical image analysis, and personalized treatment plans.

Web3 and Blockchain

- **Decentralized Finance (DeFi):** DeFi platforms gained popularity, offering decentralized financial services like lending, borrowing, and trading.
- **Non-Fungible Tokens (NFTs):** NFTs, digital assets representing ownership of unique items, became a major trend, with applications in art, gaming, and collectibles.
- **Metaverse:** The concept of the metaverse, a virtual reality space where users can interact and socialize, gained traction with projects like Decentraland and The Sandbox.

5G Networks

- Widespread Deployment: 5G networks continued to expand, offering faster speeds, lower latency, and greater capacity compared to previous generations of mobile networks.
- **New Applications:** 5G enabled new applications such as autonomous vehicles, remote surgery, and augmented reality experiences.

addittermentilities

Quantum Computing

Commercialization: Quantum computing hardware began to become more commercially available, with companies like IBM, Google, and Honeywell offering cloud-based quantum computing services.

Applications: Quantum computing has the potential to revolutionize fields like drug discovery, materials science, and optimization problems.

Other Notable Technologies

- Edge Computing: Edge computing, which involves processing data closer to its source, gained momentum for applications like IoT, autonomous vehicles, and real-time analytics.
 - **Biotechnology:** Advances in biotechnology led to breakthroughs in gene editing, synthetic biology, and personalized medicine.
- Renewable Energy: Renewable energy sources like solar and wind power continued to grow, contributing to efforts to combat climate change.

Conclusion

The year 2022 was marked by significant technological advancements across various fields. From artificial intelligence to quantum computing, these breakthroughs have the potential to shape our future and address global challenges. As technology continues to evolve at a rapid pace, we can expect

even more exciting developments in the years to come.

Manpreet Kour 24/21 3rd Sem-ECE

data) INDUC, eta ge Language Models: Era of Natural Language Processing

Introduction

Large Language Models (LLMs) have emerged as a groundbreaking technology in the field of natural language processing (NLP). These models are trained on massive datasets of text and code, enabling them to generate human-quality text, translate languages, write different kinds of creative content, and answer your questions in an informative way.

How LLMs Work

nspose(), delta) *

transpose().

LLMs are built on neural networks, a type of machine learning algorithm inspired by the human brain. These models learn to identify patterns and relationships within the data they are trained on, allowing them to generate text that is coherent, informative, and often indistinguishable from human-written content.

Key Applications of LLMs

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- Natural Language Generation: LLMs can generate human-quality text, including articles, poems, scripts, code, musical pieces, email, letters, etc.
- **Machine Translation:** LLMs have significantly improved the accuracy and fluency of machine translation systems.
- **Question Answering:** LLMs can provide informative and comprehensive answers to a wide range of questions.
- **Text Summarization:** LLMs can automatically summarize large amounts of text into concise summaries.
- Chatbots and Virtual Assistants: LLMs are used to power chatbots and virtual assistants, making them more conversational and engaging.

Challenges and Limitations

- **Bias:** LLMs can perpetuate biases present in the data they are trained on, leading to unfair or discriminatory outputs.
- Hallucinations: LLMs may sometimes generate incorrect or misleading information, especially when asked questions outside their training data.
- Computational Resources: Training and running large language models requires significant computational resources, making them expensive to develop and deploy.

Future Trends

- Multimodal LLMs: LLMs are being extended to incorporate other modalities, such as images and audio, to enable more comprehensive and context-aware understanding of language.
- Explainable AI: Researchers are working to develop techniques to make LLMs more transparent and explainable, improving our understanding of how they arrive at their



outputs.

Ethical Considerations: As LLMs become more powerful, it is crucial to address ethical concerns related to bias, misinformation, and potential misuse.

Large Language Models represent a significant advancement in the field of natural language processing. Their ability to generate human-quality text, translate languages, and answer questions has opened up new possibilities in various applications. However, it is essential to address the challenges and limitations associated with LLMs to ensure their responsible and ethical development.

> Swapandeep Singh 59/21 3rd Sem-Mech

Human Values And Engineers A Harmonious Integration

Engineers, as the architects of progress, play a crucial role in shaping our world. However, their work extends beyond technical expertise. The integration of human values into their professional endeavors is essential to ensure that technological advancements are aligned with societal well-being and ethical principles.

Human Values for Engineers

- Integrity: Engineers should uphold the highest ethical standards in their work, ensuring honesty, transparency, and accountability.
- **Responsibility:** Engineers are responsible for the impact of their designs and decisions on society and the environment. They must consider the potential consequences of their work and strive to minimize negative effects.
- **Compassion:** Empathy and understanding of human needs are essential for engineers to create solutions that truly benefit society.
- Sustainability: Engineers should design and develop products and systems that are sustainable and minimize their environmental impact.
- Equity: Engineers must strive to create solutions that are accessible and inclusive, ensuring that everyone benefits from technological advancements.
 Integrating Human Values into Engineering Practice

- Ethical Decision-Making: Engineers should incorporate ethical considerations into their decision-making processes, considering the potential impacts of their work on individuals, communities, and the environment.
- Stakeholder Engagement: Engineers should involve stakeholders, including users, policymakers, and the public, in the development and implementation of their projects. This helps ensure that solutions are aligned with societal needs and values.
- Lifelong Learning: Engineers should continuously update their knowledge and skills to stay informed about emerging technologies and ethical considerations. This helps them make informed decisions and adapt to changing circumstances.
- Professional Development: Engineers should participate in professional development activities that promote ethical behavior, social responsibility, and sustainable practices.

The integration of human values into engineering practice is essential for ensuring that technological advancements are beneficial to society and align with ethical principles. By upholding values such as integrity, responsibility, compassion, sustainability, and equity, engineers can contribute to a more just, equitable, and sustainable world.

> Akansha 56/21 2nd Sem-EE

Biotech Breakthroughs of 2022 A Year of Medical Marvels

The year 2022 witnessed significant advancements in biotechnology, reshaping the landscape of healthcare and beyond. From groundbreaking gene editing techniques to revolutionary drug discoveries, biotech innovations have the potential to revolutionize how we treat diseases and improve human health.

Biotech Trends in 2022

- Gene Editing: CRISPR-Cas9, a precise gene editing tool, continued to make headlines. Scientists used it to correct genetic defects, develop disease-resistant crops, and explore potential cures for genetic disorders.
- mRNA Vaccines: The success of mRNA vaccines in combating the COVID-19 pandemic showcased the potential of this technology for rapid vaccine development and personalized medicine.
- Synthetic Biology: Researchers made strides in creating synthetic organisms with novel functions, such as producing sustainable biofuels or degrading pollutants.
- Personalized Medicine: Advances in genomics and data analytics enabled more personalized treatment plans, tailoring medical interventions to individual patients' genetic makeup.
- Cell Therapy: Cell therapy, including stem cell therapy and CAR T-cell therapy, showed promise in treating various diseases, from cancer to autoimmune disorders.
- Organ-on-a-Chip: This technology, which involves creating miniature organs on a chip, is being used to study drug interactions and disease mechanisms more efficiently.

Impact of Biotech Innovations

Improved Disease Treatment: Biotech advancements have led to more effective treatments for a wide range of diseases, including cancer, genetic disorders, and infectious diseases.



- Medicine: Tailored treatments based on individual genetic profiles are becoming a reality, improving patient outcomes and reducing side effects.
- Sustainable Solutions: Biotech innovations are addressing global challenges such as food security, climate change, and environmental pollution.
- Economic Growth: The biotechnology industry has created new jobs and stimulated economic growth in many countries.



Future Outlook

As biotechnology continues to evolve, we can expect even more exciting breakthroughs in the coming years. Areas to watch include gene therapy for rare diseases, artificial intelligence-driven drug discovery, and the development of sustainable biomaterials. With the potential to revolutionize healthcare and address global challenges, biotechnology is shaping a brighter future for humanity.

> **Harjeet Singh** 35/21 2nd Sem -EE

The Art and Science of Hardware Engineering

Introduction

Hardware engineering, the cornerstone of technology, is a fascinating blend of art and science. It requires a deep understanding of both theoretical concepts and practical applications to design, develop, and test the physical components that power our digital world.

The Science Behind Hardware

- **Physics:** A strong foundation in physics is essential for understanding the underlying principles of hardware components, such as semiconductors, circuits, and electromagnetic fields.
- **Mathematics:** Mathematical concepts, including calculus, linear algebra, and discrete mathematics, are used to analyze and optimize hardware designs.
- Electrical Engineering: Hardware engineers must have a deep understanding of electrical circuits, power systems, and signal processing.

The Art of Hardware Design

- **Creativity:** Hardware engineers need to be creative and innovative to come up with new and innovative designs.
- Problem-Solving: The ability to identify and solve complex problems is essential for hardware engineers.
- Attention to Detail: Hardware design requires meticulous attention to detail, as even small errors can have significant cons

equences.

Interdisciplinary Collaboration: Hardware engineers often work with software engineers, designers, and other professionals to develop integrated solutions.

Key Areas of Hardware Engineering

- **Microprocessors:** Designing and developing the central processing units (CPUs) that power computers and other devices.
- **Memory Systems:** Designing and implementing memory components, such as RAM and ROM, to store data.
- Input/Output Devices: Designing and developing devices that allow computers to interact with the external world, such as keyboards, mice, monitors, and printers.
- **Embedded Systems:** Designing and developing computer systems that are embedded in other devices, such as smartphones, cars, and appliances.
- **Circuit Design:** Creating and analyzing electrical circuits that form the foundation of computer hardware.

Challenges and Opportunities

Miniaturization: The ongoing trend towards smaller and more powerful devices presents challenges in terms of heat dissipation, power consumption, and manufacturing processes.

- **Energy Efficiency:** Designing hardware that is energy-efficient is becoming increasingly important due to environmental concerns and economic considerations.
- **Emerging Technologies:** Hardware engineers must stay up-to-date with emerging technologies, such as quantum computing and neuromorphic computing, to develop innovative solutions.

Hardware engineering is a dynamic and challenging field that requires a combination of technical skills, creativity, and problem-solving abilities. As technology continues to advance, hardware engineers will play a crucial role in shaping the future of our digital world.

> Mohd.Razaq 88/21 2nd Sem-IT

Quantum Entanglement: A Spooky Connection

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Have you ever wondered if two objects could be connected in a way that transcends space and time? It sounds like the stuff of science fiction, but this phenomenon, known as quantum entanglement, is a real and fascinating aspect of quantum mechanics.

What is Quantum Entanglement?

Quantum entanglement occurs when two particles become inextricably linked, regardless of the distance between them. This means that if you measure the properties of one particle, you can instantly know the properties of the other, no matter how far apart they are. This instantaneous connection is often referred to as "spooky action at a distance," a term coined by Albert Einstein.

How Does it Work?

Quantum entanglement arises from the unique properties of quantum particles. Unlike classical objects, quantum particles can exist in multiple states simultaneously, a phenomenon known as superposition. When two particles are entangled, their states become correlated. This means that if one particle is measured in a particular state, the other particle must immediately assume the opposite state to maintain the correlation.

Applications of Quantum Entanglement

Quantum entanglement has the potential to revolutionize various fields, including:

can be used to perform complex calculations much faster than classical computers.

- Quantum Cryptography: Entanglement can be used to create unbreakable encryption schemes for secure communication.
- **Quantum Teleportation:** While not teleportation in the traditional sense, quantum entanglement can be used to transmit quantum information from one location to another.

The idea of instantaneous connections across vast distances has puzzled scientists for decades. Einstein himself was skeptical of quantum entanglement, believing that it violated the principle of locality, which states that physical influences cannot travel faster than the speed of light. However, numerous experiments have confirmed the existence of quantum entanglement.

Quantum entanglement remains a mysterious and fascinating aspect of the quantum world. As scientists continue to explore its implications, it is likely that we will uncover even more surprising and groundbreaking applications in the years to come.

> Gundeep Singh 118/21 3rd Sem-IT

Quantum Computing: Entangled particles

EARTH OBSERVATION SATELLITES

Earth observation satellites are specialized satellites designed to collect data about the Earth's physical, chemical, and biological systems. They play a crucial role in various fields such as environmental monitoring, agriculture, forestry, land use, disaster management, weather forecasting, and climate research. Here's an overview of key concepts and aspects related to Earth

data at night. Functions and Applications

- 1. Environmental Monitoring: Earth observation satellites provide critical data for tracking deforestation, desertification, water quality, and ecosystem changes.
- 2. Disaster Management: Satellites help in assessing damage from natural disasters like earthquakes, floods, and hurricanes, providing timely information for response and recovery efforts.
- **3.** Agriculture: Farmers and agricultural organizations use satellite data for precision farming, crop monitoring, soil moisture analysis, and forecasting crop yields.
- 4. Urban Planning: Urban planners and researchers utilize satellite imagery to analyze land use changes, urban sprawl, and infrastructure development.
- 5. Climate Research: Satellites collect data essential for studying climate patterns, greenhouse gas emissions, and

atmospheric changes.

6. Weather Forecasting: Meteorological satellites monitor weather conditions and atmospheric phenomena, improving forecasting accuracy.

Satellite Programs

• Landsat Program: A series of Earth observation satellites jointly managed by NASA and the U.S. Geological Survey (USGS). Landsat

Types of Earth Observation Satellites

- 1. Passive Satellites: These satellites detect natural radiation (like sunlight) that is reflected or emitted by the Earth's surface. Examples include those equipped with optical sensors, such as Landsat and Sentinel satellites, which capture images of the Earth in various spectral bands.
- 2. Active Satellites: They emit their own signals, which bounce back from the Earth's surface. Synthetic Aperture Radar (SAR) satellites, such as the European Space Agency's Sentinel-1, fall into this category. They can penetrate clouds and provide

satellites have been collecting data since 1972 and are famed for their detailed imagery of the Earth's surface.

- Sentinel Missions: Part of the European Union's Copernicus program, the Sentinel satellites (e.g., Sentinel-1, Sentinel-2, Sentinel-3) provide a multitude of data for various applications, including land and ocean monitoring.
- WorldView Satellites: Operated by Maxar Technologies, these high-resolution satellites are used for commercial imaging and mapping.
- NASA's MODIS (Moderate Resolution Imaging Spectroradiometer): Installed on the Terra and Aqua satellites, MODIS captures data for assessing large-scale global dynamics, including land cover and land use changes.

Data Accessibility

The data collected from Earth observation satellites is often made available to the public for research and analysis. Platforms like NASA's Earth Data, ESA's Copernicus Open Access Hub, and USGS Earth Explorer provide researchers, policymakers, and organizations with access to vast datasets.

Challenges and Future Trends

- **Data Overload**: Managing and analyzing the vast amounts of data generated by Earth observation satellites remains a challenge.
- **Technological Advancements:** Emerging technologies like machine learning and artificial intelligence are being integrated into data processing and analysis to improve efficiency.
- CubeSats and Small Satellites: The rise of smaller satellites, including CubeSats, is democratizing access to Earth observation data, enabling new applications and research avenues.
- International Collaboration: Global initiatives and partnerships are essential for sharing data, technology, and addressing global challenges like climate change.

In summary, Earth observation satellites are

vital tools for monitoring our planet, understanding environmental changes, and fostering sustainable development. Their continuous evolution and integration with new technologies promise to enhance our ability to observe and respond to the Earth's dynamic systems

> Nitish Bhardwaj 68/21 2nd Sem-IT

The Future of Sustainable Engineering Innovations for a Greener Tomorrow

As the global community grapples with the pressing challenges of climate change and resource depletion, the field of engineering is evolving to meet the demands for sustainable solutions. Engineers are at the forefront of developing innovative technologies and practices designed to create a more sustainable world. This article explores some of the most exciting advancements in sustainable engineering and how they are shaping the future.

Renewable Energy Technologies

One of the most significant contributions of engineering to sustainability is the advancement of renewable energy technologies. Solar panels, wind turbines, and hydropower systems are becoming increasingly efficient and cost-effective due to ongoing research and technological innovation. **Solar Energy:** Recent developments in photovoltaic technology have led to solar panels with higher efficiency rates and lower production costs. Bifacial solar panels, which capture sunlight on both sides, are gaining

traction, offering a promising solution for maximizing energy output.

Wind Energy: Offshore wind farms are experiencing explosive growth. Engineers are designing larger and more powerful wind turbines that can harness the stronger and more consistent winds over the oceans. Floating wind turbines are also being developed, which could expand the areas suitable for wind energy generation.

Green Building Practices

The architecture and construction industries are embracing sustainable engineering practices to minimize the environmental impact of buildings. Green building certifications, such as LEED (Leadership in Energy and Environmental Design), encourage the use of sustainable materials and energy-efficient systems.

Innovations in materials science are enabling architects and engineers to explore new options like cross-laminated timber (CLT) and recycled construction materials. These materials not only reduce carbon footprints but also enhance the aesthetic appeal of buildings.

Water Conservation and Treatment

As water scarcity becomes an increasingly pressing issue, engineers are developing new methods for water conservation and treatment. Rainwater harvesting systems and greywater recycling projects are increasingly being implemented in urban designs, helping cities conserve valuable water resources.

Advanced water treatment technologies, utilizing membranes and biofiltration, are making it possible to purify wastewater for reuse. This not only addresses the issue of scarcity but also reduces the burden on existing water treatment facilities.

Sustainable Transportation

The future of transportation is rapidly changing, driven by the demand for sustainable alternatives. Electric vehicles (EVs) are becoming mainstream, thanks to advancements in battery technology and charging infrastructure. Engineers are working on improving battery efficiency, reducing charging times, and increasing the range of electric vehicles.

Additionally, the concept of smart cities is gaining momentum, integrating technology into urban planning to enhance transportation systems. Autonomous vehicles and traffic management systems that use real-time data can reduce congestion and emissions, contributing to cleaner air in urban areas.

The Role of Engineers in Sustainability

The role of engineers in fostering sustainable development cannot be overstated. Their expertise in problem-solving and innovation is essential for designing systems and processes that support sustainable practices across industries. Furthermore, engineers are increasingly collaborating w i t h policy makers, environmentalists, and communities to ensure that engineering solutions align with broader sustainability goals.

Conclusion

The future of sustainable engineering is bright, with continuous advancements offering new solutions to the challenges we face. By harnessing technology, innovative materials, and a collaborative spirit, engineers are paving the way for a greener, more sustainable world. As we look ahead, it is crucial that the engineering community remains committed to finding solutions that prioritize the health of our planet and its inhabitants.

The Spirit of Entrepreneurship: Igniting Innovation in Engineering

As engineering students, we often find ourselves immersed in the intricacies of technology, mathematics, and design. While excelling in technical skills is crucial, it is equally important to cultivate an entrepreneurial mindset. Entrepreneurs are not just business owners; they are visionaries who transform ideas into reality, driving innovation and socioeconomic progress. This article explores the essence of entrepreneurship and profiles a motivating example that showcases how a passion for engineering can lead to transformative projects.

The Entrepreneurial Mindset

Entrepreneurship is about more than just starting a business; it's about solving problems, seizing opportunities, and making a positive impact. As engineers, our training equips us with the analytical skills to identify inefficiencies and the creativity to devise innovative solutions. An entrepreneurial mindset encourages resilience, adaptability, and the courage to take calculated risks. In today's rapidly evolving technological landscape, these traits are invaluable.

Embracing entrepreneurship can enhance your engineering career, whether that means launching a startup, leading a project in a large corporation, or driving change within your community. By cultivating your entrepreneurial spirit, you prepare yourself to become a leader in your field.

Motivating Example: Elon Musk and SpaceX One of the most inspiring examples of an engineer turned entrepreneur is Elon Musk, the CEO of SpaceX and Tesla. Musk's journey is a testament to the power of combining engineering expertise with entrepreneurial ambition.

Born in South Africa, Musk showed an early interest in technology and innovation. After moving to the U.S. to pursue his studies, he cofounded Zip2, a software company that provided business directories and maps for newspapers, which he eventually sold for nearly \$300 million. However, it was his vision for space travel and renewable energy that truly defined his entrepreneurial journey.

In 2002, Musk founded SpaceX with the goal of reducing space transportation costs and enabling the colonization of Mars. Despite initial setbacks, including several failed launches,



Musk's determination propelled SpaceX to become the first privately-funded company to send a spacecraft to the International Space Station in 2012. Today, SpaceX plays a crucial role in space exploration, showcasing how engineering can intersect with entrepreneurship to achieve monumental feats.

Musk's process reflects essential entrepreneurial traits: embracing failure as a learning opportunity, continually innovating, and inspiring a shared vision. His ability to harness engineering principles in pursuit of ambitious goals serves as a powerful reminder that the skills we cultivate in engineering can be applied far beyond the classroom or workplace.

Lessons for Aspiring Entrepreneurs

1. Identify Problems: Entrepreneurs are

problem solvers. As an engineering student, always look for challenges in your community, industry, or environment that could benefit from innovative solutions.

- 2. Embrace Collaboration: Entrepreneurship thrives on diverse perspectives. Collaborate with classmates, faculty, and industry professionals to brainstorm ideas and develop your projects.
- **3. Be Resilient:** The path to success is often fraught with failures. Musk's journey exemplifies that setbacks are simply stepping stones toward greater achievements. Learn from failures and keep pushing forward.
- 4. Stay Curious: Technology is ever-evolving. Stay updated with industry trends and emerging technologies, and don't hesitate to explore fields outside your immediate discipline.
- 5. Think Big, Start Small:Dreaming big is essential, but starting with manageable projects can pave the way for larger initiatives. Focus on a project that aligns with your passion and skills, then scale it as you gain experience.

As we continue our engineering studies, let us not forget the potential we hold as innovators. The world awaits your innovations, and who knows? You might just be the next great entrepreneur to change the course of engineering and technology.

Pawanpreet Singh 34/22 1st Sem-CSE



Technology

Oh, wondrous realm of ones and naughts, Where circuits hum and logic thoughts. A universe of wires and code, Where innovation's seeds are sowed. From ancient abacus to modern screen, A journey vast, a digital scene. Transistors pulse, their rhythms beat, Computing minds, a marvel feat. With algorithms and data's might, Machines can learn, see day and night. Al's grasp, a growing sphere, Reshaping world, dispelling fear.

In realms of code, we find our way, Through networks vast, day by day. A digital age, a world transformed, By minds of tech, forever warmed.

> Ramneet Kour 54/22 1st Sem - CSE

Oh, sacred temple of the mind, Where knowledge flows, a treasure kind.
A beacon bright, a guiding light, Dispelling darkness, shining bright.
From ancient scrolls to modern screen, Education's path, a vibrant scene.
With every book, a world explored, With every lesson, wisdom soared.
A teacher's hand, a gentle guide, Inspiring minds, far and wide.
With every word, a seed is sown, A garden of knowledge, fully grown.
So let us cherish, learn, and grow, In education's radiant glow.
For in its light, we find our way, To brighter futures, day by day.

Education

Vishabhjeet Singh 72/22 1st Sem-ME

Discipline

A steadfast guide, a guiding hand, Discipline shapes the mortal band. It molds the mind, it steels the will, And helps us conquer every hill. With discipline, we strive and strive, To reach the heights, to stay alive. It teaches patience, self-control, And guides us towards our chosen goal. A fortress strong, it guards the heart, From vices' grasp, a work of art. It fuels ambition, fires the flame, And helps us conquer every game. So let us praise this noble trait, Discipline's power, truly great. For in its grasp, we find our way, To brighter futures, day by day.

DISCIPLINE

Harshdev 126/21 3rd Sem- EE

GOALS

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In life's great tapestry, we weave a thread, Of joy and sorrow, intertwined instead. A dance of opposites, a cosmic play, Of light and dark, through night and day. The sun may shine, a beacon bright, But shadows creep, obscuring light. A Tale of Two A smile may bloom, a heart may soar, But tears may fall, to heal and restore. In every challenge, a chance to grow, In every loss, a lesson to know. The darkest hour, before the dawn, A promise made, a hope reborn. So let us embrace both light and shade, For in their balance, life is made. With gratitude for all we've been, We'll face the future, strong and keen.

Human Value

Mansi Devi 150/20 5th Sem - CSE

Jasleen kour 03/21 3rd Sem - CSE

In a world where chaos can often reign, Human values stand as a guiding chain. With kindness, compassion, and love as our creed, We plant the seeds of hope, each thought, each deed. Respect for the other, no matter the guise, A tapestry woven with diverse ties. Empathy flourishes when hearts intertwine, In the garden of humanity, we together shine. Honesty whispers in the silence profound, Truth binds our stories, a sacred ground. Integrity's beacon, steadfast and tall, Leads us through darkness, uniting us all. Courage ignites in the face of despair, To fight for the voiceless, to show that we care. Justice, a pillar that demands our attention, A promise of fairness, a shared intention. Gratitude humbles and opens our eyes, To the beauty around us, the stars in our skies. We learn from our failures, we grow from our pain, In unity's chorus, we sing through the rain. Forgiveness, a bridge to mend what is broken, With gentle acceptance, no harsh words spoken. For every small kindness, a ripple is cast, A reminder that love, in its essence, will last. So let us stand tall, let our values unfold, A tapestry woven with threads of pure gold. In a world marked by trials, let's choose to refine, The essence of humanity-forever entwined.

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GLIMPSES OF WORKSHOP AND SEMINAR



MBSCET Organizes Seminar on Emerging Technologies by Careereraon 27th July, 2022









CERTIFICATE OF RECOGNITION

It is hereby certified that Mahant Bachittar Singh College Of Engineering And Technology,

Jammu & Kashmir

has been an active Nodal Centre of Virtual Labs under the National Mission on Education through Information and Communication Technology during the period

from 10-08-2022 to 31-12-2022

with National Institute of Technology Karnataka (NITK), Surathkal as the mentor Participating Institute.

We look forward to your active collaboration along the road ahead for this novel initiative.





Dr. Sheena

Dr. K. V. Gangadharan Participating Institute Coordinator Virtual Labs Project NITK Surathkal.

Institute Outreach Coordinator Virtual Labs Project NITK Surathkal.





MBSCET, Jammu and NITK, Surathkal hosted a webinar on Virtual Labs to boost remote learning and digital India on 26th August, 2022



Industry Visit for 6th Sem Mechanical Engg. 2019 Batchon30th August, 2022



M.B.S College of Engineering and Technology organized two days workshop on "Cyber Security" on 4th and 5th August

Mahant Bachittar Singh

College of Engineering & Technology, Jammu A Constituent of Sant Manjit Singh Trust

(Approved by AICTE, Govt. of J&K & Affiliated to University of Jammu)

Computer Science and Engineering Department

A Seminar on

" IT Industry Awareness '

15th July 2022 - 11:00 AM ONWARDS

at M.B.S. College of Engineering & Technology Jammu



Contact: 8825034047

Guest Speaker

Dr. Sheeba Singh

Director FINNLOGIC-IT Services Pvt. Ltd. BANGALORE

Co-ordinators

Dr. Amrik Singh (Head CSE) & Ms. Jasmeen Kaur(Asst. Prof CSE)

www.mbscet.edu.in

Seminar on "IT Industry Awareness" on 15 th July 2022





Declamation Competition" Organized by MBSCET on 27th August 2022



Parents Teacher Meet Organized for 1st Year Students 2021 Batchon 24 th September 2022





NSS Unit of MBS conducted cleanliness drive at college campus on 23 rd September 2022



Placement Drive by "Extramarks" Conducted at MBSCET on 17th Aug, 2022



Awareness about bank Frauds was organized by P&S Bank at MBSCET on 22nd September 2022



Webinar On Cyber Ethics & Laws Organised by the department of E&CE, MBSCET on 29th of September 2022



Mahant Manjit Singh Ji lighting the traditional lamp during a function at MBS College in Jammu on Tuesday.

MBS College Conducted "Induction Program" 15 November 2022

* Except Copyright

IMPORTANT POINTS TO REMEMBER

- 2 t protect then Publish
- ____ghts are Territorial (Limited to boundary of Country/ sovereign authority), registration is required (in each country)*
- o Registration is done by sovereign authority (i.e. Government of India)
- Rights for limited period of time
- No automatic relief.(Need to file infringement suit)
- Renewal fees to be paid for some IPRs*
- Appointment of Patent Agent is not Compulsory; applicant can sign th documents and file himself.

isclaimer. The content is for Educational Purpose only







MBS College organizes online workshop on IPR Awareness

Placement Details 2022

S.No.	Name of Student	Branch	Name of Company
1.	Ayushmaan Nargotra	CSE	Translab Technologies Pvt. Ltd., Jammu
2.	Shivani Bhan	CSE	Translab Technologies Pvt. Ltd., Jammu
3.	Saksham Bakri	CSE	Translab Technologies Pvt. Ltd., Jammu
4.	Iqra Masood	CSE	Translab Technologies Pvt. Ltd., Jammu
5.	Akashdeep Sumbria	CSE	Puplicis Sapient, Gurugram
6.	Karamveer Singh	CSE	Dell , Bangalore
7.	Amisha Kar	IT	Translab Technology Pvt. Ltd., Jammu
8.	Gurpreet Singh	EE	Lineage Power Pvt. Ltd., Bangalore
9.	Harneet Singh	EE	Lineage Power Pvt. Ltd., Bangalore
10.	Savleen Singh	CSE	Zebal Technology Pvt. Ltd., Jammu

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Patron : D.S Pundhir



Ms.Jasmine Kaur Assitant Proffessor APSH Dept (Convenor)



Ms.Pallavi Sarngal Assistant Proffessor EE Dept (Member)

Student Editors



Mandeep Singh 3rd Sem, ME Roll no-14/21



Romanchak Mahajan 5th Sem, EE Roll no-50/20



Gundeep Singh 3rd Sem, IT Roll no-118/21



Prabjyot Singh 1st Sem, CSE Roll no-38/22



Manpreet Kaur 3rd Sem, ECE Roll no-116/21







Contact Detail Mahant Bachittar Singh College of Engineering & Technology Jeevan Nagar Road, Babliana, P.O. Miran Sahib, Jammu, J&K (UT) - 181101, Website:www.mbscet.edu.in

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