MALLA REDDY COLLEGE OF ENGINEERING

Approved by AICTE(New Delhi), Affiliated to JNTUH

Recognised under Section 2(f) & 12(B) of the UGC Act 1956, An ISO 9001:2015 Certified Institution.

DEPARTMENT OF CSE(DS) & AI&DS IMPRESSOR 2024 - 2025



Magazine

VOLUME-3 JUNE 30 2025



In every student burns a quiet flame — not always bright, not always seen — but with the right spark, it lights the world."



Determination shapes the journey self-belief defines the destination

MISSION

• Leverage Data Science expertise in emerging technologies and innovations that benefits industry and society to foster a positive impact through data-driven insights

VISION

- To Equip Students with Innovative and Cognitive Skills in the field of Data Science, while instilling Ethical values and Fostering collaboration between Industry and Academia.
- To create a learning environment focused on data science and programming for problemsolving, leveraging rapid technological advancements to enhance employability and opportunities for higher studies.
- To Nurture knowledge that addresses Societal issues through Data Science

ABOUT US

Malla Reddy College of Engineering (Formerly CM Engineering College) has been established under the aegis of the Malla Reddy Group of institutions in the year 2005, a majestic empire, founded by chairman Sri. Ch. Malla Reddy. He has been in the field of education for the last 22 years, with the intention of spearheading quality education among children from the school level.

Since its inception, Mr. Malla Reddy has endeavored to ensure quality education and carved a niche for himself by managing this group of institutions.

Malla Reddy College of Engineering has been laid upon a very strong foundation and has ever since been excelling in every aspect. The bricks of this able institute are certainly the adept management, the experienced faculty, the selfless non-teaching staff and of course the students.

Innovista Hub, established on September 28th, 2023, represents a dynamic convergence of technical and non-technical disciplines, fostering a vibrant ecosystem for innovation and learning. This club has swiftly become a cornerstone for enthusiasts and professionals alike, seeking to expand their horizons through a diverse array of events and activities. The project expo showcases ingenious creations, providing a platform for members to present their work, exchange ideas, and receive constructive feedback. Coding sessions serve as a crucible for developing and honing programming skills, essential in the modern digital landscape.

Hackathons challenge participants to think critically collaboratively, solving complex problems under time constraints, which is a testament to the practical application of theoretical knowledge. The quiz programs are not just a test of information retention but also encourage lateral thinking and quick-wittedness. These events collectively contribute to a culture of continuous learning and improvement, making Innovista Hub not just a club, but launchpad for future innovators and leaders. The club's commitment to a dual focus on technical prowess and soft skills development is indicative of its holistic approach to professional growth. By nurturing a community that values creativity, collaboration, and competition, Innovista Hub is setting a new standard for what a modern club can achieve, blending the lines between learning and doing, theory and practice, individual achievement and team success.

The Innovista Hub appears to be a commendable initiative that focuses on fostering student growth and creativity. By emphasizing the importance of encouragement in various facets of development, the hub provides a nurturing environment where students can explore their potential. The club's emphasis on teamwork and coordination is equally vital, as it ensures that members work harmoniously towards common goals. Such an environment not only enhances individual skills but also cultivates a collective spirit of innovation and understanding. This approach is instrumental in preparing students to face the challenges of the future with confidence and originality. The hub's dedication to student development is a testament to the transformative power of collaborative learning and creative exploration.

FOUNDER MESSAGE



CH. MALLA REDDY FOUNDER & CHAIRMAN

As we gather to launch our annual magazine, I am filled with immense pride and gratitude as I reflect on the incredible journey of Innovista, our esteemed student club. Over the past year, our club has been a beacon of innovation, creativity, and passion, bringing together like-minded individuals who share a common goal of making a positive impact. Through our various initiatives and events, we have not only fostered a sense of community but have also provided a platform for our members to explore their interests, develop their skills, and showcase their talents.

As I look back on our achievements, I am reminded of the countless hours of hard work, dedication, and perseverance that have gone into making Innovista the vibrant and dynamic club it is today. From organizing seminars and workshops to participating in competitions and hackathons, our members have consistently demonstrated their commitment to excellence and their passion for innovation. I am confident that the magazine you hold in your hands is a testament to the creativity, talent, and enthusiasm of our members, and I am honored to be a part of this journey.

As we celebrate this milestone, I would like to express my heartfelt gratitude to each and every one of our members, faculty advisors, and supporters who have contributed to our success. I am excited to see what the future holds for Innovista, and I am confident that together, we will continue to push boundaries, challenge ourselves, and make a meaningful difference in the world around us. Congratulations to the entire Innovista team on this remarkable achievement, and I wish you all the best as you continue to innovate, inspire, and thrive!

SECRETARY MESSAGE

Mr. MAHENDER REDDY

SECRETARY

As we prepare to launch our annual magazine, I would like to take a moment to highlight the incredible work of our student club, Innovista. This club has been a hub of creativity and innovation on our campus, providing a platform for students to share their ideas, collaborate on projects, and bring their passions to life. From organizing workshops and seminars to hosting hackathons and competitions, Innovista has been instrumental in fostering a culture of innovation and entrepreneurship among our student body



A Throughout the year, Innovista has worked tirelessly to provide opportunities for students to develop their skills, network with industry professionals, and showcase their talents. Their dedication and enthusiasm have been inspiring, and we are grateful for their contributions to our campus community. As we celebrate the launch of our annual magazine, we are proud to feature the stories and achievements of Innovista's members, and we look forward to seeing the impact they will continue to make in the years to come.

I would like to extend my sincerest appreciation to the Innovista team for their hard work and commitment to excellence. Your efforts have not gone unnoticed, and we are honored to have you as part of our community. Congratulations on a successful year, and we look forward to seeing what the future holds for Innovista!

As we look to the future, we are excited to see how Innovista will continue to evolve and grow, pushing the boundaries of what is possible and inspiring others to do the same. With their passion, creativity, and determination, we have no doubt that the members of Innovista will go on to achieve great things and make a lasting impact on our world.

PRESIDENT MESSAGE



Dr. CH. BHADRA REDDY PRESIDENT

As we celebrate the launch of our annual magazine, I am thrilled to acknowledge the outstanding contributions of our student club, Innovista. This exceptional group of students has been a shining example of innovation, creativity, and leadership on our campus.

Through their tireless efforts, Innovista has created a vibrant ecosystem that fosters collaboration, entrepreneurship, and social responsibility, inspiring countless students to pursue their passions and make a positive impact.

Innovista's commitment to excellence is evident in every aspect of their work, from organizing thought-provoking events and workshops to developing innovative solutions to real-world problems. Their dedication to creating a better future is truly inspiring, and we are proud to have them as part of our university community. As we look to the future, I am confident that the members of Innovista will continue to push boundaries, challenge the status quo, and make a lasting difference in the world.

I would like to extend my heartfelt congratulations to the Innovista team on their remarkable achievements and thank them for their invaluable contributions to our university. Your energy, enthusiasm, and creativity are a testament to the power of innovation and collaboration, and we are honored to have you as part of our community.

As we celebrate this milestone, I am reminded of the importance of nurturing and supporting student-led initiatives like Innovista. By providing a platform for students to explore their passions and interests, we can unlock their full potential and empower them to become the leaders and change-makers of tomorrow.

SMT. CH. SHALINI REDDY Director, MRGI



Smt. Ch. Shalini, an accomplished professional with an MBA and a robust background in finance, serves as a Member in the Management category, where she plays a pivotal role in steering organizational and financial strategies. Based in Secunderabad, she brings deep insight and a results-driven approach to her institution's administration and long-term planning. Her expertise in financial management enables effective resource allocation, risk assessment, and sustainable growth. Smt. Shalini's leadership is marked by a commitment to operational excellence and informed decision-making, contributing significantly to the institution's development. She actively collaborates with teams to ensure transparent governance and the successful execution of strategic initiatives. Her dynamic involvement and professional integrity continue to shape a forward-looking vision for the organization, making her a valuable asset in today's competitive environment. Through her dedication and analytical skills, she exemplifies the impact of strong financial stewardship in institutional management.



DR. CH. PREETI REDDY Director, MRGI

Dr. Ch. Preethi Reddy serves as the Vice-Chairman of Malla Reddy Vishwavidyapeeth (MRV), Hyderabad, where she plays a key role in shaping and executing the institution's strategic vision. With a strong background in medicine and a deep commitment to excellence, she works tirelessly to elevate healthcare standards and foster academic and institutional growth. Her leadership style is dynamic and hands-on, marked by a clear focus on results and impactful outcomes. Dr. Preethi Reddy's dedication to innovation and quality ensures that MRV continues to advance as a center of excellence in medical education and healthcare. Through her strategic insight and passion for service, she has become a driving force behind the university's progress, inspiring both staff and students. Her visionary guidance continues to shape the future of MRV, reinforcing its reputation as a premier institution dedicated to academic and professional excellence.



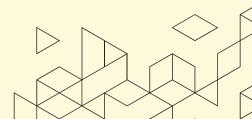
Dr. MARAM ASHOK

PRINCIPAL - MRCE

distinguished Dr. M. Ashok. a academician with a Ph.D. in Computer Science specializing in Digital Image Processing, is a respected educator and researcher with numerous accolades to his name. He has authored seven books. published 43 research articles in reputed and holds five journals, patents, reflecting his commitment to innovation and academic excellence.

As a dedicated mentor, he actively guides Ph.D. scholars and leads various educational initiatives aimed at enhancing institutional growth and academic quality.

Dr. Ashok is known not only for his professional accomplishments but also for his kind and approachable nature. He fosters a positive, inclusive environment and maintains strong, respectful relationships with students, parents, faculty, staff, management, and other stakeholders. His collaborative leadership style and encouraging attitude motivate both faculty and students to strive for excellence in all their endeavours. A visionary in the field of education and research, Dr. M. Ashok continues to inspire the academic community through his dedication, innovation. commitment holistic and unwavering to development.



Dr. M. SANDHYA RANI

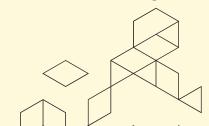
PROFESSOR & DEAN-ACADEMIC

Dr. M. Sandhya Rani serves as the Dean of Academics at Malla Reddy Engineering College of (MRCE), Hyderabad, bringing over 19 years of teaching experience to her leadership role. She holds a Ph.D. in Embedded Systems from JNTU Anantapur, along with an M.Tech in Digital Systems & Computer Electronics and a B.E. in Electronics and Instrumentation Engineering from JNTUH. Since joining MRCE in June 2020, she has played a key role in enhancing academic standards and aligning programs with



the curriculum of Jawaharlal Nehru Technological University, Hyderabad (JNTUH). As Dean, Dr. Sandhya Rani oversees curriculum implementation, academic planning, and the integration of innovative teaching methodologies. She strongly advocates for project-based learning, interdisciplinary education, and industry-relevant skill development. Her efforts contribute to a dynamic academic environment that encourages students and faculty to pursue research, innovation, and professional growth.

She actively promotes collaboration among students, faculty, and parents, fostering a supportive ecosystem focused on holistic development. Her leadership ensures that MRCE not only adheres to academic excellence but also evolves to meet the challenges of modern education and industry demands.



Dr. NAGAVARAPU SATEESH DEAN OF EDC

Nagavarapu Sateesh, the Dean of the Entrepreneurship Development (EDC) at Malla Reddy College Engineering, is a visionary leader committed to nurturing innovation and entrepreneurial thinking among students. With a deep belief in shaping future leaders, he encourages students to explore opportunities beyond conventional career and embrace the paths spirit entrepreneurship. Under his leadership, the EDC has become a vibrant hub of creativity and practical learning.



Sateesh organizes impactful workshops, seminars, and hands-on sessions focused on key areas such as project planning, startup funding, business model development, and the use of emerging technologies. His initiatives are designed to provide aspiring entrepreneurs with the skills, knowledge, and confidence needed to turn their ideas into successful ventures.

By forging strong collaborations with industry professionals, mentors, and startup ecosystems, he ensures students gain real-world insights and build valuable networks. Sateesh's dynamic and supportive approach empowers students to think innovatively and act decisively, preparing them to become change-makers in their fields. His efforts contribute significantly to building a culture of entrepreneurship that aligns with national development goals and fosters socio-economic growth.





Dr. J. GLADSON MARIA BRITTO HOD - CSE DS AND AI&DS

Dr. J. Gladson Maria Britto serves as the esteemed Head of the Department of CSE (Data Science) and AI & DS at Malla Reddy College of Engineering. With a strong academic foundation unwavering passion and an technology and education, Dr. Britto has been instrumental in shaping the vision and direction of departments. His leadership has led to remarkable growth, with a strong emphasis on innovation, research, and industry-oriented learning.

A dedicated educator and mentor, Dr. Britto actively promotes a culture of academic excellence and encourages students to pursue cutting-edge technologies through hands-on learning, research projects, and collaboration with industry. His efforts have resulted in improved student outcomes, higher placement rates, and an increased interest in AI and Data Science domains among students.

Dr. Britto's approachable nature and commitment to holistic development have made him a respected and admired figure among students and faculty alike. He consistently motivates the academic community to push boundaries, embrace challenges, and strive for excellence. Under his guidance, the departments have established themselves as centers of innovation and learning, preparing students to meet the demands of the everevolving tech industry. His visionary leadership continues to shape the future of engineering education at the institution.



Mrs. D KRANTHI DEEP Asst. Professor



It gives me immense pleasure to present the innovista an E Magazine of the college. An illusive boundary of faith, trust, worthiness and affection. This magazine is a periodical publication, published once a year and will contain a variety of content.

I have been part of the Data Science department since inception over two years ago. In this time-period, we have overcome so many challenges, created innovations, handled academics, events and workshops. We have been successful in instilling

discipline and were always compliant with the rules and regulations.

Going forward, with support of all the faculty members, we would like to continue our good work with the same level of hard work and dedication and bring laurels to the Data Science Department. The talent of our students is reflected in the outcome and success of our department.

This magazine is one of the best platforms for our students to present theirmultifaceted talent and innovative ideas. Our magazine is balanced collection of technical activities, non-technical activities, Innovista Department Club, placement progress, departmental activities, academic achievement, NSS activities, Women Empowerment etc.



Mrs. T NAGA PRAVEENA Asst. Professor



I'm T. Naga Praveena, Assistant Professor in the Department of CSE DS, AI&DS. The Innovista Club was established in the month of October 2023, under the Department of CSE (DS) and AI&DS.

I am grateful to be a part of the club for the past one year. The faculty coordinators and student coordinators are very enthusiastic to conduct various programs under this club.

Under this club, the students from all departments are excited to participate in these programs. The students who are under this club learned about creation, leadership, ruling, professionalism, speaking skills, managing skills, accounting, technical skills, and non technical skills.

They also habituated themselves to work coordination, which is very important in their career. Teamwork plays a vital role in working with any organization and that quality is present in the students of this club.



FACULTY LEADS MESSAGE

Mrs. M NAGA SRAVYA Asst. Professor



Dear Students.

As we celebrate the one-year anniversary of our student club, Innovista, I am thrilled to take a moment to reflect on the incredible journey we've shared so far. From its inception, Innovista has been a beacon of innovation, creativity, and collaboration, bringing together students from diverse backgrounds and disciplines to explore new ideas and push boundaries.

Over the past year, Innovista has achieved numerous milestones that make us proud. Some of the notable accomplishments include:

- Organizing seminars and workshops on cutting-edge topics such as artificial intelligence, sustainable energy, and entrepreneurship
- Collaborating with industry partners to provide students with hands-on experience

Department places emphasis on all the important aspects of computers such as Programming, Algorithm Design, Operating Systems, Computer Networks, Mobile Communication, Artificial Intelligence, Machine Learning and many more. Special focus is given to subjects like Fundamentals of Data Science, Data Pre-processing, Data Analytics, Data Visualization, etc. These will help the students in acquiring the required knowledge and expertise to start their career as a Data Analyst, Data Scientist and many other opportunities. Many seminars, conferences, certifications and training sessions are also conducted by the department to make the students develop themselves globally Department also takes the initiative to improve the soft skills, analytical capabilities and verbal communication of the students so that they can face the competition in the corporate world confidently.

n conclusion, I would like to express my gratitude to each and every one of you who has been a part of this incredible journey. Your enthusiasm, dedication, and innovative spirit have made Innovista the vibrant community it is today. Here's to many more years of innovation, collaboration, and excellence!



FACULTY LEADS MESSAGE

Mrs. B SWATHI Asst. Professor



Dear Students.

As the faculty advisor of the Innovista club, I am delighted to reflect on a remarkable year filled with creativity, collaboration, and innovation. Our club has grown not only in numbers but also in the depth of engagement and initiatives that our members have embraced.

Achievements of Innovista:

- Workshops and Seminars: We organized a series of workshops focusing on emerging technologies, creative writing, and digital media, which were well-attended and received positive feedback.
- Community Projects: Innovista members actively participated in community service projects, reinforcing our commitment to social responsibility. These projects not only benefited the community but also provided valuable learning experiences for our members.
- Inter-Club Collaborations: Collaborating with other student clubs enhanced our reach and enriched our activities. Notably, our joint events fostered a spirit of teamwork and shared learning.
- Publication Contributions: The club members contributed significantly to our annual magazine, showcasing their talent in writing, art, and photography. This publication stands as a testament to our collective creativity.

Looking Ahead: I encourage all students to join Innovista. This club is a platform for you to express your ideas, hone your skills, and engage with like-minded peers. Together, we can continue to make a meaningful impact both within our campus and in the broader community. Let's keep the spirit of innovation alive!



Dr. J. GLADSON MARIA BRITTO

Advice:

HOD - CSE (DS) and AI&DS

- 1. Diversify Technical Domains
- Introduce sessions on emerging technologies: Blockchain, DevOps, AR/VR, Ethical Hacking.
- Form focus groups within the club to specialize in different tech stacks.
- 2. Monthly Events Calendar
- Establish a structured calendar with at least one major technical event/workshop every month.
- Include mini-challenges, coding sprints, and innovation days.
- 3. Real-World Projects & Hackathon Participation
- Encourage club members to form project teams and work on solutions to real-world problems.
- Actively participate in external hackathons and startup incubator programs.
- 4. Collaboration with Other Clubs/Departments
- Partner with non-technical clubs (like Entrepreneurship, Arts) for interdisciplinary projects.
- Organize joint events like Tech + Design challenges or Business + Tech pitch contests.
- 5. Skill-Building Programs
- Conduct beginner-to-advanced bootcamps in popular areas (AI, Cybersecurity, App Development).
- Create a mentorship system between senior and junior members.
- 6. Documentation and Portfolio Development
- Help students build personal portfolios (GitHub, LinkedIn, personal websites).
- Maintain a club project repository to track and showcase ongoing and completed works.
- 7. Expand Outreach & Recognition
- Launch a club newsletter or blog to highlight achievements, upcoming events, and tech
- Apply for recognition at institutional or national level by documenting activities and achievements.
- 8. Feedback and Reflection
- Collect regular feedback from members after every event.
- Hold end-of-semester reviews to assess progress and revise the strategy accordingly.

DEPARTMENT OF CSE(DS) & AI&DS

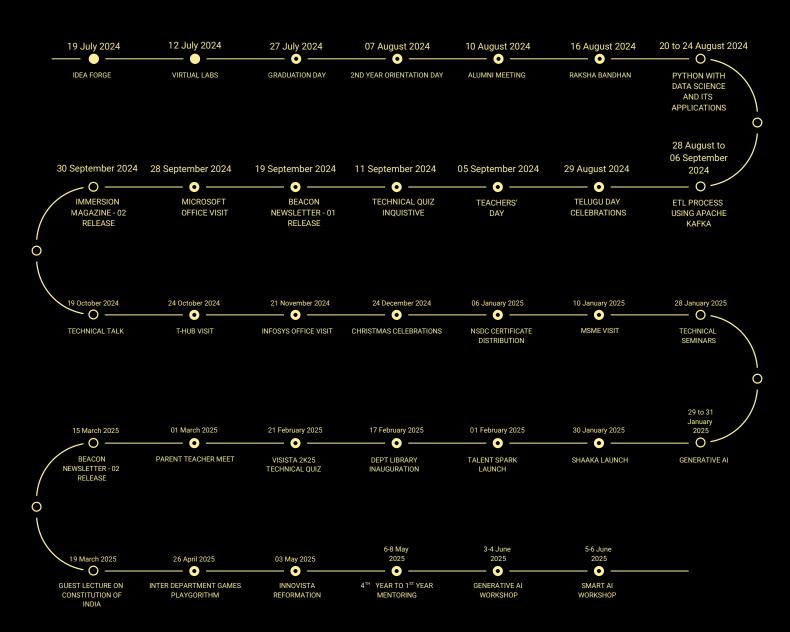


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It was truly an honor to serve as the Supreme Lead of Innovista. Being part of this inspiring & Creative club has been one of the most fulfilling chapters of my journey. I am deeply grateful to have worked alongside such disciplined and enthusiastic juniors, under the visionary leadership of our respected HOD sir, and with the unwavering support of our dedicated faculty.

Being a part of Innovista not only helped me grow as a leader but also taught me the true value of teamwork, creativity, and perseverance. Each event, idea, and initiative we brought to life was a reflection of our shared passion and unity. The memories and lessons I've gathered here will always remain close to my heart and continue to inspire me in all my future endeavors.

I wholeheartedly wish that Innovista continues to rise, reaching greater heights and achieving remarkable success in the years to come. May its spirit of innovation and excellence never fade, and i believe my juniors plays the crucial role to fulfill our dreams in achieving INNOVISTA high to the sky.

With Heartfelt Gratitude,
D. Chandana Sree
SUPREME LEAD, INNOVISTA CLUB



As I approach the end of my college journey, one chapter shines the brightest—my time with Innovista, the club that became more than just an extracurricular activity. It was a place where innovation met collaboration, and where I grew from a curious member into the Supreme Lead. Through ideathons, hackathons, and workshops, we turned ideas into action and built bridges across disciplines, encouraging students to reimagine possibilities.

Leading Innovista was both an honor and a deep learning experience. Organizing flagship events and mentoring juniors taught me patience, teamwork, and the joy of empowering others. Beyond technical skills, the club instilled vital soft skills like communication, time management, and problemsolving. It helped shape many of us into confident individuals ready for real-world challenges.

More than anything, Innovista gave me purpose. It allowed me to contribute to a culture of innovation and inclusivity, leaving behind a legacy I hope will inspire others. To future members: nurture bold ideas and lead with compassion. As I begin a new chapter, I do so with immense pride and gratitude, knowing Innovista will continue to grow and impact lives — just as it did mine.

With Heartfelt Gratitude, Goli Varsha SUPREME LEAD, INNOVISTA CLUB







VINITH ROY

EVERE LAD

AKHIL





















































































BOOKS

- Mr. Akash Dey authored Cloud Service Management (ISBN: 978-93-6738-840-2), June 2025.
- Mrs. Lirina P wrote AI in Electromagnetics (ISBN: 978-93-6738-765-8), June 2025.
- Mr. Akash Dey wrote Artificial Intelligence and IOT (ISBN: 978-93-48655-95-0), May 2025.
- Mrs. E. Pavithra published Automata Theory and Compiler Design (ISBN: 979-93-342-7352-6), May 2025.
- Mrs. Sravanthi K authored Computer Networks (ISBN: 978-93-6986-984-8), May 2025.
- Mrs. Mandala Naga Sravya wrote Soft Computing Algorithms (ISBN: 978-93-6738-105-2), May 2025.
- Dr. Sateesh Nagavarapu published Foundations of Data Science (ISBN: 978-93-93769-71-8), Feb 2025.
- Mr. Ravi R authored Principles of Programming Languages (ISBN: 978-93-6738-935-5), Feb 2025.
- Mr. Radhakrishnan M published Quantum Machine Learning (ISBN: 978-93-6738-419-0), Jan 2025.
- Mr. Radhakrishnan N wrote Introduction to Operating System (ISBN: 978-936738815-0), Nov 2024.
- Mrs. T. Naga Praveena co-authored Introduction to Operating System (ISBN: 978-936738815-0), Nov 2024.
- Mrs. Lirina P published Modern Cryptography (ISBN: 978-936738061-1), Nov 2024.
- Mrs. Lirina P authored Renewable Energy and Power Electronics (ISBN: 978-93-6986-523-9), Oct 2024.
- Mr. Radhakrishnan N co-authored Renewable Energy and Power Electronics (ISBN: 978-93-6986-523-9), Oct 2024.

BOOK CHAPTERS

- Mr. Sajin R Nair wrote a chapter on AI-Powered Student Monitoring Strategies (ISBN: 9349552531), April 2025.
- Mrs. T. Mounika authored a chapter on AI-Driven Tutoring Systems (ISBN: 979-8-3693-8292-9), Feb 2025.

JOURNAL PUBLICATIONS

- Dr. J. Gladson published Deep Learning for Drug Reactions in SCOPUS journal (CANA), March 2025.
- Mrs. T. Mounika published on Biodiversity-Based Disaster Management in Springer, Feb 2025.
- Anoop Kumar's work on Pneumonia Detection via Deep Learning was published in IJERR, Aug 2024.
- Dr. J. Gladson authored Hybrid DL for Breast Cancer Detection in WoS journal The Bioscan, Nov 2024.

CONFERENCE PUBLICATIONS

- Mr. Radhakrishnan M presented on ML-Based Transmission Algorithms at AISSEWS, April 2025.
- Mrs. E. Pavithra presented Vogt AI for Diabetic Macular Edema at ICERCS-IEEE, March 2025.
- Mrs. T. Mounika presented ASD Prediction Using ML at ICCSE-2024, March 2025.
- Mrs. Lirina P presented Seasonal Temperature Analysis at ICRACCT-2024, Sept 2024.
- Mr. Radhakrishnan M presented the same at ICRACCT-2024, Sept 2024.
- Chinthala Kumar Swamy presented Malicious URL Detection Using SVM-GA at ICDSNS-2024, July 2024.

NPTEL CERTIFICATIONS

- Dr. M. Sandhya Rani NBA Accreditation and Teaching Learning in Engineering (NATE) – NPTEL25GE23S1047001522 – May 2025
- Mrs. E. Pavithra Deep Learning with Natural Language Processing NPTEL25CS22S547010053 May 2025
- Mr. Radhakrishna M Data Analytics with Python NPTEL25CS17S1247001062 May 2025
- Mr. Harish Kumar Introduction to Internet of Things NPTEL25CS44S447007806
 May 2025
- Mr. Harish Kumar Computer Networks and Internet Protocol NPTEL25CS15S1247006496 May 2025
- Mrs. E. Pavithra Introduction to Machine Learning NPTEL25CS46S447005193 May 2025
- Mrs. E. Pavithra Compiler Design NPTEL25CS13S1147007105 May 2025
- Mrs. E. Pavithra Introduction to Internet of Things NPTEL25CS44S347004192 May 2025
- Mr. R. Ravi Programming in Java NPTEL25CS57S1147007077 May 2025
- Mr. R. Ravi Reinforcement Learning NPTEL25CS62S1247007949 May 2025
- Mr. R. Ravi Fundamentals of Object Oriented Programming NPTEL25CS34S547010055 May 2025
- Mr. V. Tharmalingam Fundamentals of Object Oriented Programming NPTEL25CS34S547010153 – May 2025
- Mr. V. Tharmalingam Introduction to Internet of Things NPTEL25CS44S347004913 – May 2025
- Mr. V. Tharmalingam Human Computer Interaction in English NPTEL25CS38S647010629 May 2025
- Mrs. E. Pavithra Introduction to Soft Computing NPTEL25CS48S347002935 March 2025
- Mrs. E. Pavithra Database Management System NPTEL25CS18S647002089 March 2025
- Mrs. Bhagya Lakshmi Database Management System NPTEL25CS18S547000023 March 2025
- Mr. Chintala Kumara Swamy Python for Data Science NPTEL25CS60S347004574
 March 2025
- Mrs. Sravanthi K Machine Learning NPTEL25CS50S347000384 March 2025
- Ms. Mandala Naga Sravya Fuzzy Logic and Neural Networks NPTEL25GE15S447006568 – March 2025

NPTEL CERTIFICATIONS

- Mr. Sailu Deep Learning NPTEL24CS114S750203555 November 2024
- Mr. R. Harish Kumar Introduction to Machine Learning NPTEL24CS101S550200416 November 2024
- Mr. R. Harish Kumar Cloud Computing NPTEL24CS118S950200217 November 2024
- Mrs. Sravanthi K Internet of Things NPTEL24CS115S50202181 November 2024
- Mrs. Lirina P Operating System Fundamentals NPTEL24CS108S650202619 November 2024
- Mr. Ravi R Machine Learning and Deep Learning Fundamentals and Applications
 NPTEL24CS146S9502014303 November 2024
- Mr. Ravi R Introduction to Internet of Things NPTEL24CS115S750203665 November 2024
- Mrs. Lirina P Digital Circuits NPTEL24CS147S105020267 November 2024
- Mrs. E. Pavithra Computer Architecture NPTEL24CS83S350202242 November 2024
- Mrs. E. Pavithra Operating System Fundamentals NPTEL24CS108S550206954 November 2024
- Mrs. T. Naga Praveena Big Data Computing NPTEL24CS130S350201104 November 2024
- Mr. Radhakrishnan M Digital Image Processing NPTEL24EE133S1050202423 November 2024
- Mr. D. Kranthi Deep Introduction to Operating System NPTEL24CS80S436803747
 October 2024
- Mr. Sajin R Nair Introduction to Machine Learning NPTEL24CS81S336804057 October 2024
- Mrs. E. Pavithra Introduction to Operating System NPTEL24CS80S336800180 October 2024
- Mr. Radhakrishnan M Introduction to Operating System NPTEL24CS80S336800022 October 2024
- Mrs. Sravanthi K Database Management System NPTEL24CS75S136800632 –
 October 2024
- Mr. Harish Kumar Database Management System NPTEL24CS75S136800353 October 2024



- Mrs. E. Pavithra filed Virtual Digital Table Using WEBGL (App No: 202541035449 A), May 2025
- Mrs. E. Pavithra also filed AI Smart Charging for EVs (App No: 202541004630 A), April 2025
- Mrs. T. Naga Praveena filed AI-Based Climate Forecasting Device (App No: 425307-001), July 2024
- Mrs. P.V. Harika filed ML Forecasting in Dams (App No: 202441013969), May 2024
- Mrs. D. Kranthi Deep filed DNA Sequence Classification using ML (App No: 202441009139), May 2024
- Mrs. K. Sravanthi filed AI Robotic Device for Inventory (App No: 6363332), May 2024



ORIENTATION DAY

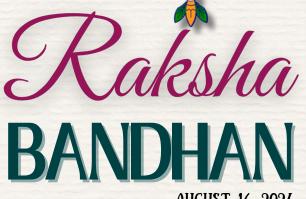
7 AUGUST, 2024











AUGUST 16, 2024















Beuti Day

August 29, 2024









INQUISTIVE:

Technical Quiz















HRISTMAS

DECEMBER 24, 2024







VISISTA 2K25 TECHNICAL QUIZ February 21. 2025









As part of Visista, our department conducted a Technical Quiz on 21st February 2025, consisting of three rounds. The event saw active participation and encouraged technical thinking among students.

PARENT TEACHER MEETING

A Conversation That Builds Futures







Reformation May 03, 2025





Signature DAY

18 June 2025

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BATCH 2021-2025

ALUMINI



July 10, 2025











PYTHON WORKSHOP

Data Science & Its Applications

8th August, 2024

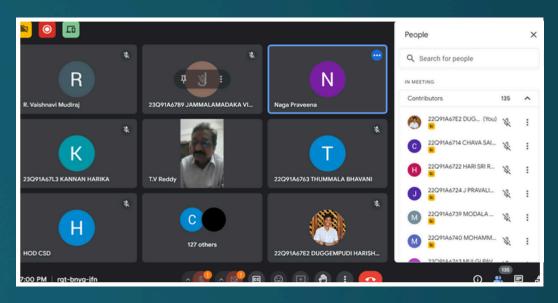


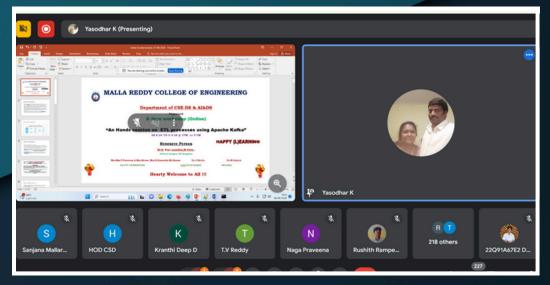


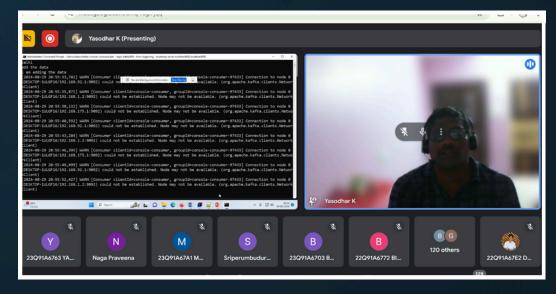


KAFKA WORKSHOP

8th August, 2024







ADVANCED LEARNER GENERATIVE AI STORY JUNE 3-4, 2025





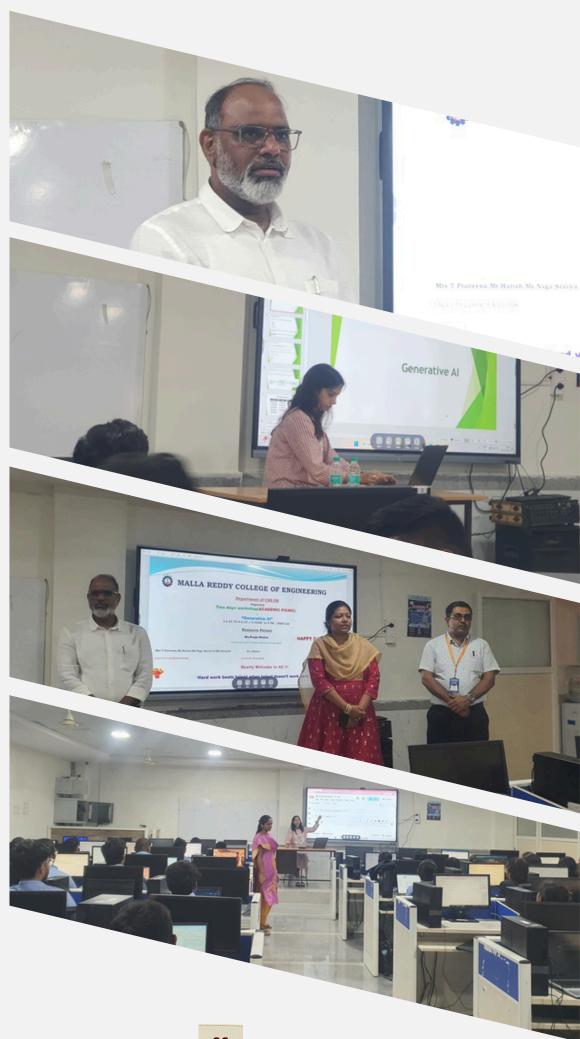






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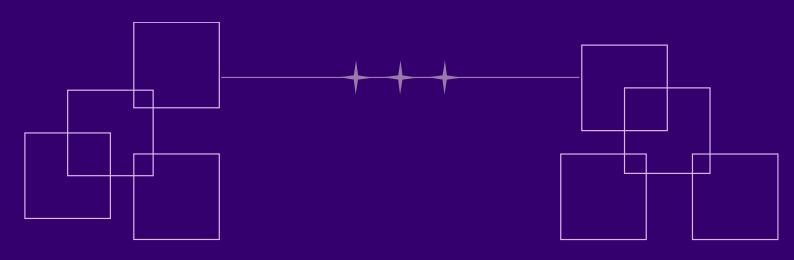


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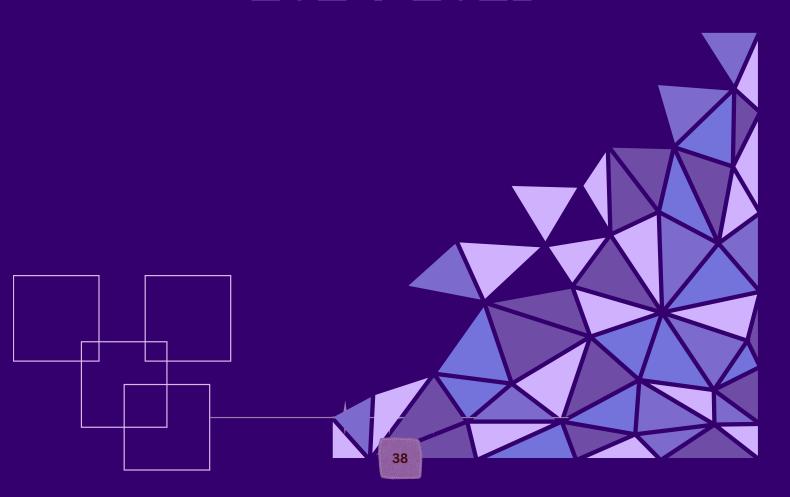








LAUNCHES 2024-2025



Magazine IMMERSION VOL 2

SEPTEMBER 30, 2024



REDDY COLLEGE OF ENGINEERING





SHAAKA



Startup

January 30, 2025 Thursday



The Future of Gadgets in 2024







Launch of Talent Spark

February 01, 2025





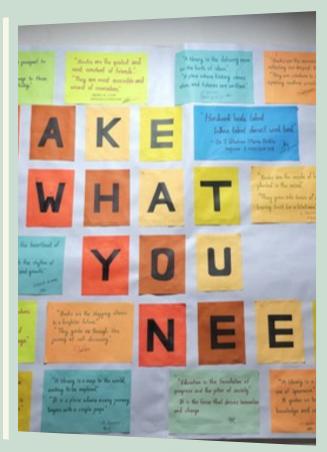




LIBRARY

Inaugaration





February 17, 2025





NEWSLETTER 2

SEPTEMBER 19 2024

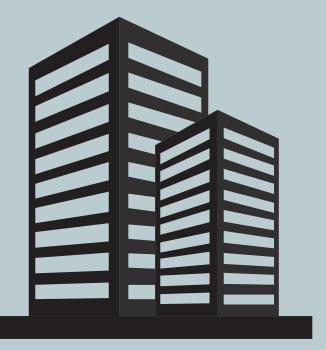








VISITS 2024-2025





MICROSOFINISIT

28th September, 2024









HUB

20 25





October 24, 2024 Thursday



HUB VISIT

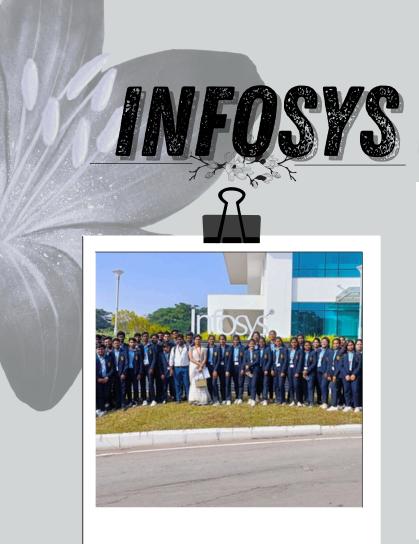
OCTOBER 24 2025

















A classroom session, gaining industry insights from professionals.











November 21, 2024 Thursday











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TECHKNOW2.0





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TECHNICAL TALK











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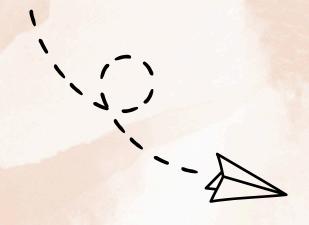
IV YEAR TO IST YEAR MENTORING

6.7.8 MAY 2025









Student Articles



Pandas vs Polars: The Battle of Data Tools

In the world of data science, Pandas and Polars are two powerful tools for data manipulation. Pandas, a well-known Python library, is ideal for beginners. It offers easy-to-use functions for reading files, filtering data, and calculating values, making it popular among students and professionals. With its strong community and extensive tutorials, it's the perfect starting point. Polars, on the other hand, is a newer library written in Rust, known for its impressive speed and memory efficiency. It is particularly useful when working with large datasets and emphasizes performance. Its syntax differs slightly, favoring a more functional style over Pandas' Pythonic approach.

For students, Pandas is recommended when dealing with small to medium-sized datasets or when learning the basics. Polars becomes beneficial for handling large datasets or for those looking to explore high-performance data processing.

In practice, using both tools depending on the task is a smart approach. Pandas helps build a strong foundation, while Polars allows students to push performance boundaries. Together, they form a powerful combination, equipping students with the skills needed for academic projects, internships, and real-world data science challenges.



JEEDIPALLI RISHMA

Smart City Using IoT

A smart city uses modern technology, especially the Internet of Things (IoT), to enhance urban living by making city services more efficient, sustainable, and responsive. IoT connects physical systems like transportation, energy, water supply, and public safety using smart sensors and real-time data. This connectivity helps cities address issues like traffic congestion, pollution, and energy waste effectively.

IoT devices collect and share data across networks, enabling automation and quicker decision-making. For example, smart traffic signals reduce congestion, smart meters monitor energy usage, and sensors in bins and pipelines optimize waste and water management. These systems shift cities from reactive to proactive management.

The benefits of IoT in smart cities include improved resource efficiency, enhanced public safety, better healthcare, smoother transportation, and increased citizen engagement through digital platforms. However, challenges such as data privacy, high infrastructure costs, and the need for skilled professionals must be addressed.

Despite these issues, advancements in 5G, AI, and cloud computing will continue to drive the growth of smart cities. As more regions adopt IoT-based solutions, cities will become smarter, greener, and more connected, significantly improving the quality of life for citizens.

MALIELA DEV

MALLELA DEV

Data Fabric: Weaving Smarter Data Analysis

Data Fabric is a modern data architecture that connects and integrates data from multiple sources, making it easily accessible, manageable, and analyzable in real time. Imagine school data spread across different systems—Data Fabric unifies it, giving one smart and simplified view. It uses AI to automate data discovery, metadata to describe data, and real-time access to work across devices and platforms.

For students and future data analysts, Data Fabric is a powerful tool. It streamlines data collection, cleaning, and analysis, helping avoid duplication and saving time. It enables real-time insights from structured and unstructured data—crucial in fields like data analytics, AI, and cloud computing.

Real-world applications include:

- Healthcare: Combining lab results, doctor notes, and fitness data for improved treatment.
- Education: Merging attendance, grades, and feedback to spot learning issues.
- Retail: Integrating sales and marketing data to understand customer behavior instantly.

In conclusion, Data Fabric may not be flashy, but it's essential for smart, scalable, and future-ready data analysis. For students, learning about it now builds a strong foundation for data-driven careers.



RITHISH KUMAR

Artificial General Intelligence (AGI) – Summary

Artificial General Intelligence (AGI) refers to machines capable of performing any intellectual task that humans can do. Unlike Narrow AI, which is task-specific (like voice assistants or recommendation systems), AGI would be able to reason, learn, and adapt across domains without needing retraining. It represents a major goal of AI research—creating autonomous, human-like intelligence.

AGI differs from current AI through its ability to generalize knowledge, apply experience to new problems, and show flexibility. Its development relies on advanced techniques such as deep learning, natural language processing (NLP), reinforcement learning, and transfer learning. AGI systems must integrate memory, reasoning, and multi-domain understanding.

Prominent models like GPT-4 exhibit early signs of generality, though they are still narrow AI. In the future, AGI could revolutionize fields like medicine, education, governance, and climate science.

However, AGI development brings ethical concerns—like privacy, safety, and control. Ensuring AGI is developed responsibly requires transparency, interdisciplinary research, and international cooperation. In conclusion, AGI holds immense promise but must be guided with care. It is not just a technological goal, but a profound societal and ethical journey.



ERRA VARSHA

Cybersecurity

Cybersecurity is the practice of protecting systems, networks, and data from digital threats. It defends against cyberattacks that aim to access, damage, or steal sensitive information. As cybercrime grows, individuals, businesses, and governments must adopt strong cybersecurity strategies.

Key types of cybersecurity include:

- Network Security: Protects internal networks using firewalls and VPNs.
- Application Security: Secures software during development.
- Information Security: Maintains data confidentiality, integrity, and availability.
- Operational Security, Cloud Security, and Endpoint Security: Protect systems, devices, and cloud environments.

Common cyber threats include malware, phishing, denial-of-service (DoS) attacks, SQL

injections, man-in-the-middle (MitM) attacks, insider threats, and zero-day exploits. These can compromise data, disrupt operations, or demand ransoms.

Emerging trends include AI-based threat detection, Zero Trust Architecture, blockchain for secure data handling, and compliance with laws like GDPR and India's Data Protection Act.

Key cybersecurity practices: use strong passwords, enable multi-factor authentication, update software regularly, install antivirus tools, set up firewalls, conduct employee training, and back up data frequently.



DIVESH OZA

Open Source

Open-source software represents a global movement built on collaboration, transparency, and innovation. For students, especially in computer science and data science, it offers a valuable opportunity to gain real-world experience beyond classroom learning. Contributing to open-source projects helps students develop technical skills, industry-standard tool proficiency, and collaborative abilities through hands-on involvement.

Students learn by using tools like Git, CI/CD pipelines, and agile frameworks. Peer reviews refine their coding practices and improve communication. Programs like GNOME's Outreachy offer structured, paid internships for underrepresented students. For example, Vaishali Thakkar's contributions to the Linux kernel through Outreachy led to a successful career in systems programming.

Similarly, TensorFlow's community initiatives have encouraged student involvement in creating educational resources, providing global exposure and deepening their understanding of machine learning. Beyond skills, open-source work cultivates purpose and global citizenship. Projects like OpenStreetMap and Public Lab let students contribute to causes like disaster response and environmental research. A strong GitHub profile showcasing open-source contributions can boost employability,

VI ALITHMAIDI

K LALITH NAIDU

Generative AI

Generative AI refers to advanced AI systems that learn from existing data to create new content such as text, code, images, music, and videos. Unlike traditional AI, which classifies or predicts, generative AI produces original outputs with minimal human input. Powered by models like GPT, DALL·E, and StyleGAN, it is transforming creative and technical fields. In Computer Science and Engineering (CSE), tools like GitHub Copilot, Amazon CodeWhisperer, and TabNine assist developers by suggesting and generating code, reducing development time. UI/UX designers also benefit from AI that creates responsive designs from sketches or text. In media, generative AI composes music, creates animations, and enhances gaming experiences by generating realistic NPCs and storylines.

However, ethical concerns arise. Bias in training data can lead to unfair or inappropriate outputs. Intellectual property issues also exist, as AI might replicate copyrighted patterns.

Overdependence on AI may weaken problem-solving skills in novice developers.

Looking forward, generative AI is expected to become more transparent and multi-modal, helping students learn better and assisting engineers in real-time development. With ethical use and human creativity, generative AI promises to reshape how we build, design, and innovate in the digital era.

GONDA ANUSHA

Internship Secrets

Securing a tech internship early in your academic journey can greatly boost your career. It offers real-world experience, industry exposure, and builds confidence. Success goes beyond academics—recruiters value skills, projects, and practical problem-solving. Building a strong foundation with programming (like Python, Java, or C++) and platforms such as LeetCode or GitHub is key. Hackathons and open-source projects also showcase teamwork and innovation. A standout resume (one page, with quantified achievements) and an updated LinkedIn profile are your first impressions. Apply strategically—use platforms like Internshala, AngelList, LinkedIn Jobs, and reach out via cold emails or alumni referrals.

Interviews often include coding rounds and behavioral questions. Practice daily with data structures and algorithms, mock interviews, and STAR-method responses. For advanced roles, understanding system design is an advantage.

Soft skills matter too—communication, collaboration, adaptability, initiative, and emotional intelligence help you stand out. Clear communication, proactive contributions, and emotional maturity are valued highly by employers.

The real secret? Start early. Join student tech clubs, participate in research programs, and build your network.



KOLA YAMINI

Digital & Software Technologies

Digital and software technologies are fundamental tools and platforms that process, store, and transmit data in the modern digital world. Blockchain and Web3 are key innovations transforming data management and online interactions.

Blockchain is a decentralized ledger that records digital transactions securely using cryptographic algorithms. It eliminates central authority and ensures transparency. Programming languages like Solidity and tools like JavaScript and Web3.js help develop decentralized applications (dApps).

Web3 empowers users to interact with dApps directly through digital wallets like MetaMask, removing the need for intermediaries. It supports decentralized finance (DeFi), NFTs, digital identity, and secure data sharing.

Software technologies like Hardhat, Truffle, and Ethers.js help developers write, test, and

deploy smart contracts. Frontend tools like React and JavaScript create user interfaces for dApps. Storage solutions like IPFS enable decentralized data management. Platforms such as Ethereum, Polygon, and Solana form the blockchain foundation, while Chainlink provides real-world data integration through oracles.

Future Outlook: As AI, cloud computing, and IoT advance, digital technologies will become more intelligent, secure, and user-centric. Web3's decentralized vision aims to return control and ownership of data to users.



G.SRIJA

The Power and Future of Data Science in Business

Data science is revolutionizing how businesses operate in today's digital era. Combining statistics, computer science, and domain expertise, it enables organizations to extract meaningful insights from vast datasets—both structured and unstructured. These insights help drive innovation, optimize operations, and support smarter decision-making.

As industries like healthcare, finance, and retail grow increasingly data-centric, data science plays a pivotal role in forecasting trends, personalizing customer experiences, detecting fraud, and enhancing services. Technologies such as cloud platforms, machine learning, and real-time analytics allow data scientists to analyze and act on information at scale.

Business technology, when integrated with data science, empowers organizations to build robust infrastructure, improve workflows, and automate decisions. Tools like Power BI and Tableau simplify data visualization, while AI applications streamline tasks across departments from HR to logistics.

The future of business hinges on leveraging data science not just for operational gains, but for sustainable innovation and ethical growth. As businesses evolve, those embracing data-driven strategies will lead with agility, foresight, and competitive advantage. Ultimately, success will belong to those who turn raw data into meaningful, actionable intelligence.



Emerging technologies like Artificial Intelligence (AI), blockchain, quantum computing, and biotechnology are rapidly transforming the world around us. These innovations are not only revolutionizing industries such as healthcare, finance, education, and transportation but are also reshaping how we interact, communicate, and solve global challenges. Technologies like 5G, augmented reality (AR), and clean energy solutions are paving the way for smarter cities and a more connected, sustainable future. As these advancements grow, they bring both exciting opportunities and important ethical responsibilities, making it essential for society to adapt thoughtfully and responsibly. With the right balance of innovation and regulation, these technologies have the potential to greatly enhance quality of life. Staying informed and skilled in these areas is crucial for future readiness.

The rise of emerging technologies is also reshaping the job market and educational landscape. New career paths in fields like data science, cybersecurity, AI development, and renewable energy are gaining prominence, demanding a skilled and adaptable workforce. Educational institutions are gradually integrating these trends into their curricula to prepare students for a technology-driven future. At the same time, governments and organizations must ensure equitable access to these technologies, bridging the digital divide. As innovation accelerates, collaboration between industry, academia, and policymakers will be key to harnessing the full potential of emerging technologies.



K. HARIKA

AI-powered design tools like Figma AI, Adobe Firefly, and Canva's Magic tools now automate repetitive tasks, suggest layouts, and even generate assets—freeing up time for creative thinking. Meanwhile, no-code platforms such as Webflow, Glide, and Framer allow designers to turn ideas into fully functional websites or apps without writing complex code. Motion design and micro-interactions, made possible by tools like Rive and Lottie, are enhancing user engagement and making interfaces feel more dynamic and responsive. At the same time, AR and VR are enabling designers to craft immersive experiences, especially in branding and product demos. Finally, data visualization tools like Tableau and Power BI are empowering designers to tell meaningful stories with data—crucial in today's personalized digital experiences. In short, emerging technologies are not replacing designers—they're elevating them. Learning to integrate these tools can help you design smarter, work faster, and create more impactful digital experiences.

Emerging Technologies Transforming Design The design world is rapidly evolving, driven by powerful new technologies that are reshaping how designers create, collaborate, and innovate. For those aiming to excel in UI/UX, web and graphic design, branding, and content creation, staying updated with these tools is essential.

T.PANKAJA



Latest Improvements in Bitcoin & Rise of Artificial General Intelligence

Bitcoin's 2025 Advancements

Bitcoin has evolved beyond a digital payment system, with major 2025 updates addressing scalability, privacy, sustainability, and institutional adoption. Bitcoin Ordinals now allow NFTs and data to be inscribed on satoshis, expanding use into art and storage. This has boosted Layer 2 solutions like Taproot Assets and the RGB Protocol, which handle such data off-chain to maintain efficiency.



Dr. J G M Britto Professor

The Lightning Network is faster and more reliable, with features

like Multi-Path Payments and Point Time-Locked Contracts improving privacy and micropayment viability. Sustainability efforts are notable—over 60% of mining uses renewable energy, aided by stranded energy use, waste heat recovery, and supportive regulations. Privacy gains include Silent Payments and improved CoinJoin protocols from Wasabi Wallet 2.0 and Samourai Wallet. Institutional confidence is growing through spot Bitcoin ETFs and clearer regulations worldwide.

Artificial General Intelligence: The Next Leap

Artificial General Intelligence (AGI) is emerging as a reality—machines with human-like reasoning and adaptability. Unlike narrow AI, AGI can apply knowledge across domains, solve complex problems, and operate in unfamiliar settings. Advances in deep learning, reinforcement learning, and multimodal models from leaders like OpenAI and DeepMind enable AGI systems to learn from minimal data and understand abstract concepts.

Autonomous AI agents now perform tasks like research, report writing, scheduling, and debugging without step-by-step instructions, signaling a productivity shift in sectors like education, healthcare, and software development. However, AGI raises ethical concerns about safety, accountability, and alignment with human values. Research into AI alignment, transparency, and safety protocols is crucial for responsible adoption.

Bitcoin's technical maturity and AGI's emergence mark a new era in finance and technology—full of promise, but demanding careful oversight to ensure positive global impact.

Recent Developments in WhoFi Technology: The Future of Wi-Fi Access Management

WhoFi is emerging as a game-changer in Wi-Fi access management, offering smarter, more secure, and user-friendly connectivity. This platform streamlines device authentication, enhances security, and delivers real-time network insights for businesses, institutions, and public venues.

What is WhoFi Technology?

WhoFi leverages AI, machine learning, and advanced protocols to simplify device identification before network access. It reduces unauthorized connections, monitors network usage, and ensures stable performance.



Dr. J G M Britto Professor

Key Recent Developments

- 1.AI-Driven Device Recognition Uses machine learning to identify devices by network signatures and patterns. It dynamically grants access to trusted devices and blocks suspicious ones, minimizing password dependence and improving hotspot security.
- 2. Zero Trust Architecture No device is trusted by default. Every connection request undergoes strict verification, lowering risks of cyberattacks and data breaches.
- 3. Multi-Device Authentication Users authenticate once, and other devices connect securely without repeated log-ins, ideal for homes, offices, and public spaces.
- 4. Enterprise & Service Provider Partnerships Collaborations with telecoms, airports, cafes, and hotels are extending WhoFi's reach, improving reliability and scalability through real-world feedback.
- 5.IoT Integration Adapts to smart devices like sensors and cameras, ensuring secure, authenticated connections with optimized bandwidth allocation.

Looking Ahead

With its focus on robust security, seamless multi-device use, and IoT compatibility, WhoFi is poised for wide adoption. As connected environments grow, it promises to be a pivotal tool in delivering reliable, protected, and efficient Wi-Fi access worldwide.

BIOTECHNOLOGY IN AGRICULTURE

Biotechnology in agriculture involves the use of scientific techniques and tools, including genetic engineering, molecular markers, and tissue culture, to modify and improve plants, animals, and microorganisms for agricultural purposes. Its goal is to increase crop yields, enhance resistance to pests and diseases, improve nutritional value, and make agriculture more sustainable.



Dr. N. Satheesh Professor

Genetically Modified Organisms (GMOs)

- Crops like Bt cotton, Bt corn, and Golden Rice are examples.
- Traits engineered:
 - Pest resistance (e.g., Bt toxin genes)
 - Herbicide tolerance (e.g., glyphosate-resistant soybeans)
 - o Drought and salinity tolerance
 - o Improved nutrition (e.g., Golden Rice enriched with Vitamin A)

Molecular Markers and Marker-Assisted Selection

- Helps breeders identify desirable traits at the DNA level.
- Speeds up the breeding process without genetic modification.

Tissue Culture and Micropropagation

- Produces disease-free, uniform planting material.
- Enables rapid multiplication of elite plant varieties.

CRISPR and Gene Editing

- A newer technique allowing precise changes in DNA.
- Used to develop crops with improved traits without introducing foreign DNA.

Biofertilizers and Biopesticides

- Uses microorganisms to promote plant growth or control pests naturally.
- Reduces dependence on chemical fertilizers and pesticides.

RNA Interference (RNAi)

- Silences specific genes in pests or the plant.
- Example: RNAi-based crops that protect against insect pests by interfering with their gene expression.

Biotechnology has revolutionized modern agriculture by offering solutions to food security, climate change, and sustainability. However, its adoption must be balanced with careful regulation, ethical considerations, and informed public debate.

Continuous Threat Exposure Management (CTEM)

Continuous Threat Exposure Management (CTEM) is a proactive cybersecurity approach that enables organizations to identify, assess, and remediate threats in a continuous and systematic manner. Unlike traditional, point-in-time security assessments, CTEM operates on an ongoing basis, adapting to the evolving threat landscape and organizational changes. It helps security teams stay ahead of attackers by consistently identifying exploitable vulnerabilities, misconfigurations, and weaknesses in real-world environments. CTEM is not a single tool or process, but rather a strategic framework. It typically includes five key stages:



D.KRANTHI DEEP
Assistant professor

scoping, discovery, prioritization, validation, and mobilization. In the scoping phase, organizations define which assets, networks, or business processes to focus on based on risk and business value. The discovery phase involves identifying all assets and their potential vulnerabilities through tools like attack surface management (ASM), vulnerability scanners, and threat intelligence platforms. During prioritization, threats are evaluated based on exploitability, impact, and business context. Validation involves simulating attacks, often using breach and attack simulation (BAS) tools, to test how effective current controls are. Finally, mobilization means acting on findings by patching vulnerabilities, improving detection, or updating incident response plans.

A key strength of CTEM is its business-aligned risk management. It helps security leaders translate technical vulnerabilities into business risk, making it easier to justify security investments to executives and boards. CTEM also aligns well with zero trust architectures and modern DevSecOps practices by ensuring that security is embedded continuously across environments.

As threats grow in complexity and sophistication, CTEM offers an efficient way to reduce the mean time to detect and respond to vulnerabilities. It helps eliminate blind spots that may not be addressed by periodic assessments or compliance checks alone. For example, external attack surface management under CTEM can expose forgotten internet-facing services that attackers might exploit.

In summary, Continuous Threat Exposure Management enables organizations to build a more agile, responsive, and risk-informed security posture. By continuously discovering, validating, and prioritizing exposures in real time, CTEM shifts security from reactive to proactive, reducing the likelihood and impact of cyberattacks. It is increasingly becoming a cornerstone of modern cybersecurity programs and is especially vital for organizations operating in dynamic and high-risk digital environments.

Biotechnology and Health Tech: Transforming Healthcare for the Future

Biotechnology and health technology are reshaping the future of healthcare by combining biological science with technological innovation. These advancements are improving diagnostics, enhancing treatment options, and making healthcare more accessible and efficient.

Biotechnology: Advancing Medical Science

Biotechnology uses living organisms and biological systems to develop products that improve human health. One major breakthrough is CRISPR-Cas9, a gene-editing tool that enables scientists to precisely correct genetic defects. This holds promise for treating inherited conditions like sickle cell anemia and cystic fibrosis, paving the way for personalized medicine.



SWATHI BODLA Assistant Professor

The development of biopharmaceuticals, such as monoclonal antibodies, gene therapies, and vaccines, is another key achievement. For example, the mRNA-based COVID-19 vaccines by Pfizer-BioNTech and Moderna were built on years of biotech research.

In the field of regenerative medicine, biotechnology supports tissue engineering and stem cell therapies. These innovations aim to restore function to damaged tissues and organs, offering new hope for treating chronic diseases like heart failure, arthritis, and neurological disorders.

Health Technology: Digitizing Healthcare Delivery

Health tech refers to the use of digital tools to improve healthcare quality and access. Telemedicine has revolutionized patient-doctor interactions by enabling virtual consultations. This became especially critical during the COVID-19 pandemic, allowing patients to receive care remotely.

Wearable health devices like smartwatches are empowering people to track vital signs such as heart rate, oxygen levels, and sleep patterns. These tools support chronic disease management and encourage proactive health monitoring.

Artificial intelligence (AI) plays a growing role in healthcare by analyzing medical data, aiding in early diagnosis, and automating administrative tasks. AI is also used in imaging, helping detect diseases like cancer at early stages.

Robotic surgery is enhancing precision and reducing recovery times. Robotic systems such as the da Vinci Surgical System enable minimally invasive procedures and even remote surgeries by expert surgeons.

Future Outlook

As these fields grow, the future of healthcare looks increasingly personalized and data-driven. Alpowered predictive analytics, continuous health tracking, and secure data sharing through blockchain could redefine care delivery. However, challenges like data privacy, accessibility, and ethical concerns must be addressed.

Conclusion: Biotechnology and health technology are revolutionizing healthcare by bringing scientific discovery and digital innovation together. These advancements promise to improve outcomes, extend lifespans, and make quality healthcare available to more people across the globe.

India's Rise as a Global Leader in ChatGPT Usage

As of May 2025, India leads the world in ChatGPT usage, accounting for 13.5% of active users—surpassing the United States. This growth reflects India's digital strength, especially among its tech-savvy population, developers, and education sector.

A major driver is corporate adoption. Tata Consultancy Services (TCS) has integrated Generative AI into its operations, labeling it a "civilisational shift." With over 150,000 employees being trained, TCS is reshaping work through a "Human + AI" model across healthcare, finance, and retail.



T.NAGA PRAVEENA
Assistant professor

In everyday life, ChatGPT is making significant impact. Students use it for learning support, assignments, and interview prep.

Startups leverage GenAI for chatbot development, translation

tools, and legal or productivity applications. Government initiatives also utilize AI for e-governance, citizen services, and document automation.

However, rapid adoption comes with challenges. Misinformation, ethical concerns, the skill gap, and language diversity pose hurdles. Addressing this, India launched the AI Safety Institute and is drafting the National AI Strategy 2.0 to encourage responsible innovation and develop local AI models.

Three key factors explain ChatGPT's success in India. First, India's robust digital infrastructure—like Aadhaar, UPI, and DigiLocker—has created a fertile environment for AI integration. Second, affordable internet and smartphones have made ChatGPT accessible even in smaller towns. Lastly, India's growing AI-first learning culture is evident as students and educators adopt these tools for personalized, efficient education.

In the workplace, freelancers use ChatGPT for content creation and marketing. Corporates apply it in HR (e.g., automating emails and job descriptions), IT (e.g., code generation), and finance (e.g., report drafting and compliance).

To reflect India's cultural and linguistic diversity, developers are creating regional language interfaces and training AI on local content, including Indian laws and syllabi. Voice-based AI tools are also emerging to serve semi-literate users.

Policy-wise, India is advancing AI regulation with the DPDP Act 2023 ensuring data privacy, and upcoming guidelines for AI in education and healthcare.

Conclusion: India's leadership in ChatGPT usage isn't just quantitative—it represents a transformative shift in education, governance, and industry. With strong infrastructure, policy support, and inclusive innovation, India is on track to become a global hub for AI development and responsible deployment.

Quantum AI: The Future of Intelligent Computation

Quantum AI merges quantum computing with artificial intelligence (AI) to address complex, high-dimensional problems more efficiently than classical systems. It leverages the power of quantum mechanics to enhance data processing and learning capabilities.

Quantum computing relies on qubits, which can represent both 0 and 1 simultaneously, enabling massive parallelism. Algorithms like Grover's search, Quantum Approximate Optimization Algorithm (QAOA), and Variational Quantum Eigensolvers (VQE) are being adapted to improve machine learning tasks such as classification, clustering, and optimization.



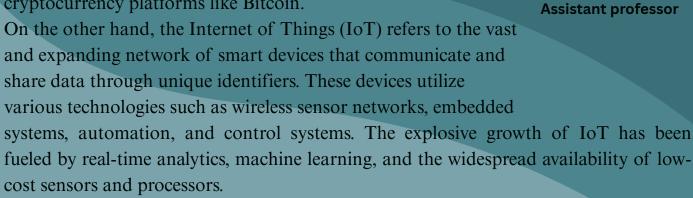
K. Sravanthi
Assistant professor

Quantum Machine Learning (QML) approaches—including Quantum Neural Networks (QNNs), Quantum Support Vector Machines (QSVMs), and Quantum Kernel Methods—are gaining traction in current research. As quantum hardware evolves beyond the Noisy Intermediate-Scale Quantum (NISQ) era, Quantum AI applications are expanding. These include quantum-enhanced drug discovery, financial modeling, real-time decision-making in autonomous systems, and Quantum Natural Language Processing (QNLP) for more nuanced language understanding.

Though still developing, Quantum AI holds the promise of outperforming classical AI in speed, scalability, and efficiency. With ongoing advancements in quantum hardware, hybrid architectures, and AI-aware quantum algorithms, Quantum AI is poised to become a fundamental pillar of next-generation computational intelligence. It could redefine how machines learn, reason, and interact with the world. Early adoption and research will be key to unlocking its full potential. Ethical frameworks and secure design must evolve alongside technology. Interdisciplinary collaboration will drive meaningful breakthroughs. Education in quantum principles is essential for preparing future AI professionals.

Blockchain-Based Internet Of Things

Technological advancements have consistently reshaped our daily lives, and two such innovations—Blockchain and the Internet of Things (IoT)—are driving a transformative shift across industric Blockchain is a decentralized and transparent ledger that securely records transactions without the need for centralized oversight. It builds trust among parties in a network by linking blocks of data in an immutable chain, initially popularized through cryptocurrency platforms like Bitcoin.



E. PAVITHRA

The integration of blockchain with IoT offers a promising solution to several critical challenges, including data integrity, security, and decentralized control. Through this integration, data collected from IoT devices can be securely transmitted and stored on private blockchain networks, ensuring tamper-proof records of all interactions. This capability is especially vital in applications where trust and verification are essential.

Blockchain-enabled IoT systems offer enhanced transparency, traceability, and accountability. For instance, supply chain management, healthcare monitoring, and smart cities can all benefit from such integrated systems. Immutable logs of device activity can improve operational efficiency and reduce fraud or errors.

The framework discussed in this research explores how blockchain can be effectively employed to support IoT systems using the latest tools and consensus mechanisms. It highlights key concepts such as distributed ledgers, consensus protocols, device communication, scalability challenges, and future trends.

Despite the immense potential, integrating blockchain with IoT also presents challenges. These include scalability concerns, limited processing capabilities of edge devices, energy consumption, and regulatory compliance. Overcoming these hurdles will be essential to realize a secure, scalable, and efficient blockchain-IoT ecosystem.

In conclusion, the convergence of blockchain and IoT represents a groundbreaking development that could redefine how smart devices interact and share information. This research aims to deepen our understanding of this integration and contribute to building resilient, secure, and intelligent systems for the future.

AI TRiSM, Biotechnology, and Health Tech: Transforming the Future

AI Trust, Risk, and Security Management (AI TRiSM) is an emerging framework aimed at ensuring the ethical, secure, and responsible deployment of AI systems. As AI becomes deeply embedded in decision-making across industries, AI TRiSM focuses on transparency, risk mitigation, and privacy safeguards. This includes explainability, bias detection, and strong governance to build stakeholder trust and comply with legal and ethical standards.

Industries such as healthcare and finance especially benefit from AI TRiSM. For example, in healthcare, it ensures fair, unbiased diagnostics, while in finance, it prevents discriminatory practices. As organizations increasingly adopt AI,



P.V HARIKA

Assistant professor

the demand for TRiSM is growing. Businesses are investing in frameworks that prioritize ethical AI use, boosting adoption across sectors. Key developments include bias mitigation techniques and designing AI systems with transparent, explainable decision-making.

Parallel to AI advancements, biotechnology is revolutionizing medicine. Regenerative medicine, including stem cell therapies and tissue engineering, offers promising treatments for conditions like heart disease and arthritis. This field is focused on restoring damaged tissues and organs, providing new hope for chronic and degenerative illnesses.

Health technology (Health Tech) is also playing a critical role in reshaping healthcare delivery. Telemedicine allows patients to consult doctors remotely, increasing access to healthcare, particularly in rural or underserved areas. Wearable health devices like smartwatches help monitor vital signs in real-time and are becoming essential tools for managing chronic diseases.

Artificial Intelligence in healthcare is revolutionizing diagnostics and patient management. From detecting diseases in medical imaging to AI chatbots handling appointments, these tools improve accuracy and efficiency. Robotic surgery offers minimally invasive solutions, leading to faster recovery and fewer complications. Systems like the da Vinci robot even allow remote surgeries, expanding global access to advanced care.

Looking ahead, the convergence of AI, biotechnology, and health tech promises a future of personalized, predictive healthcare. Innovations like smart devices, genomics, and blockchain will enhance data security and improve patient outcomes. However, challenges remain, including ensuring data privacy and equal access to these technologies.

In conclusion, the integration of AI TRiSM, biotechnology, and health tech is setting the stage for a more ethical, efficient, and inclusive healthcare system, transforming lives and shaping a healthier future for all.

AI-Powered Robots in Agriculture

Artificial Intelligence (AI) is revolutionizing the agricultural industry, and one of the most significant developments in recent years is the integration of AI-powered robots in farming practices. These robots are transforming how crops are monitored, maintained, and harvested, leading to increased efficiency, reduced labor costs, and more sustainable agricultural methods. AI-powered robots are equipped with advanced sensors, cameras, and machine learning algorithms that allow them to perform a variety of tasks with high precision. For instance, robots can identify weeds and apply herbicides only where necessary, reducing chemical usage and environmental impact.



C.KUMARA SWAMY
Assistant professor

They can also detect pests, diseases, and nutrient deficiencies in crops early, enabling farmers to take timely action and prevent large-scale losses. One of the most impressive applications of AI in agriculture is autonomous harvesting. Robots can now pick fruits and vegetables such as strawberries, apples, and tomatoes by recognizing ripeness and avoiding damage to the plants. These harvesting robots work continuously and are particularly useful in addressing labor shortages, especially during peak harvesting seasons.AI-enabled drones and ground robots also play a critical role in field mapping and crop monitoring. They collect data on soil health, moisture levels, plant growth, and yield predictions. This information helps farmers make data-driven decisions, optimize resource use, and improve crop quality. Precision agriculture, supported by AI robotics, ensures that water, fertilizers, and pesticides are used only where needed, thus conserving resources and enhancing productivity. Moreover, AI robots are contributing to sustainable farming by minimizing waste and promoting eco-friendly practices. Some robots are designed for planting seeds at optimal depths and intervals, ensuring uniform growth and better yields. Others help in sorting and packaging harvested produce, ensuring that only high-quality products reach the market. Despite the many advantages, the adoption of AI-powered robots in agriculture does come with challenges. High initial costs, technical complexity, and the need for skilled operators can limit their widespread use, especially among small-scale farmers. However, as technology becomes more affordable and accessible, AI robots are expected to become a standard tool in modern farming. In conclusion, AI-powered robots are redefining the future of agriculture by making farming more efficient, accurate, and sustainable. As innovation continues, these intelligent machines will play an increasingly vital role in ensuring global food security and promoting environmentally responsible farming practices.

Democratized Generative AI: Unlocking Creativity and Innovation for All

Generative AI has emerged as a transformative force, enabling machines to create text, images, music, and code with human-like sophistication. Once confined to elite research labs and tech giants, this technology is now increasingly accessible—ushering in a new era of democratized AI that empowers individuals, small businesses, and communities to innovate like never before.

The democratization of generative AI refers to making these advanced tools widely available, affordable, and easy to use. Cloud-based platforms, open-source models, and user-friendly interfaces have lowered technical barriers, enabling non-experts to harness AI for creativity and problem-solving.



SAJIN NAIR
Assistant professor

Artists use AI to co-create visuals and music, writers generate ideas or entire drafts, entrepreneurs build marketing content and business strategies, and students explore complex topics interactively.

This accessibility levels the playing field, fostering innovation in underrepresented and resource-constrained communities. For example, a small startup in a developing country can now compete with global players by using AI for content generation, product design, or customer engagement. Similarly, educators can personalize learning experiences for diverse student needs, while individuals with disabilities can access new forms of expression and communication.

Moreover, generative AI is redefining what it means to be creative. Rather than replacing human ingenuity, it acts as a catalyst—amplifying ideas, expanding perspectives, and accelerating the creative process. The synergy between human intuition and machine-generated possibilities opens doors to novel art forms, hybrid storytelling, and more inclusive innovation.

However, democratization also comes with responsibilities. Ethical considerations—such as bias, misinformation, copyright infringement, and misuse—must be addressed proactively. Ensuring transparency, fairness, and accountability in generative AI development and deployment is essential to prevent harm and ensure its benefits are shared equitably.

To truly unlock the potential of democratized generative AI, a collaborative effort is needed across sectors. Governments, tech companies, educators, and civil society must work together to promote digital literacy, support open research, and create inclusive ecosystems where AI tools are not only available but also used responsibly and creatively.

In essence, democratized generative AI is not just a technological shift—it is a cultural and economic one. By putting powerful creative tools in the hands of the many, not just the few, it holds the promise of a more innovative, inclusive, and imaginative future for all.

The Internet of Things (IoT): A Technological Overview

The Internet of Things (IoT) refers to the network of inter connected physical objects—such as devices, appliances, vehicles, and sensors—that collect and exchange data through the internet. These smart systems function autonomously, enabling real-time monitoring, control, and analytics across a wide range of industries.

Core Components of IoT

Sensors and Devices: Collect data from the physical environment,

such as temperature, motion, or pressure. Connectivity: Transmit data using communication protocols like Wi-Fi, 5G, Bluetooth, Zigbee, or LPWAN.

AKASH

Assistant professor

Data Processing: Cloud or edge computing platforms analyse

data to extract actionable insights. User Interface: Allows users to interact with the system through dashboards, mobile apps, or automated alerts.

Enabling Technologies Cloud Computing provides scalable infrastructure for data storage and processing. Edge Computing reduces latency by processing data closer to the source. Artificial Intelligence (AI) drives predictive analytics, automation, and decision-making. Blockchain offers secure, transparent data sharing and device authentication.

Applications of IoT

Smart Homes: Connected thermostats, lighting, and security systems adapt to user preferences. Healthcare (IoMT): Wearables and remote monitoring devices support diagnostics and chronic care.

Industrial IoT (IIoT): Sensors enable predictive maintenance and optimize industrial operations. Agriculture: IoT devices monitor crop health, soil moisture, and environmental conditions.

Smart Cities: Integrated systems manage traffic, utilities, and public safety efficiently.

Challenges

Despite its benefits, IoT faces several challenges:

Security & Privacy: Many IoT devices lack robust security, making them vulnerable to breaches.

Interoperability: The absence of universal standards can lead to integration difficulties.

Data Overload: Handling the vast data generated by devices requires efficient infrastructure. Future Outlook

By 2030, the global IoT ecosystem is expected to encompass over 75 billion connected devices. Innovations in AI, 5G, digital twins, and AR/VR will accelerate adoption and enable new use cases. As IoT matures, its fusion with emerging technologies promises a future where systems are more intelligent, autonomous, and responsive to human needs.

Neuromorphic Computing: The Future of AI

Neuromorphic computing is a transformative approach to computer architecture, inspired by the structure and function of the human brain. Unlike conventional von Neumann architectures, which separate memory and processing units, neuromorphic systems aim to integrate these functions to mimic the brain's efficiency, adaptability, and distributed structure.

One of the most compelling reasons to emulate the brain is its unmatched performance. While today's supercomputers occupy large spaces and consume megawatts of power, the human brain fits within our skull and functions on just 20 watts of energy, without any external cooling. Beyond its efficiency, the brain's



KURRI RAJINI
Assistant Professor

adaptability allows it to perform a variety of complex tasks like composing poetry, driving vehicles, and learning languages—capabilities that neuromorphic computing strives to replicate.

Applications of Neuromorphic Computing

Medicine: Neuromorphic devices could revolutionize drug delivery by responding intelligently to changes in the body, such as fluctuations in insulin or glucose levels.

Manufacturing and Automation: Neuromorphic chips can handle complex sensor data in real time, making them ideal for enhancing efficiency in smart factories and enabling highly customized production systems.

Artificial Intelligence: By using event-based processing and spike-driven signaling, neuromorphic hardware mirrors the way the brain processes information. This can lead to more responsive and lifelike AI systems. Examples include generative tools like ChatGPT and autonomous vehicle software.

Imaging: Neuromorphic vision sensors function like the human eye by responding directly to changes in light intensity. These sensors operate without frame rates and allow each pixel to act independently, offering faster and more efficient imaging.

Edge AI: Neuromorphic computing's low energy needs make it suitable for edge computing, where data is processed locally rather than in the cloud. This is especially useful for Internet of Things (IoT) devices, which generate vast amounts of real-time sensor data.

Conclusion

From healthcare and AI to manufacturing and edge devices, neuromorphic computing holds the potential to revolutionize multiple industries. Its brain-like efficiency and adaptability are set to meet the rising demands of our increasingly digital world. As research advances, neuromorphic systems are poised to redefine how we approach computation in the future.

Docker

Docker is an open-source platform designed to simplify the process of developing, shipping, and running applications using containerization. Containers are lightweight, portable, and self-sufficient units that include everything needed to run a piece of software—code, runtime, libraries, and system tools—ensuring that applications work consistently across different environments.

Before Docker, developers often struggled with environmentrelated issues, such as "It works on my machine" problems. Docker solves this by allowing developers to package applications and their dependencies into a container image that runs the same regardless of where it is deployed—be it a developer's laptop, a test server, or a production environment.



P.LIRINA
Assistant professor

At the heart of Docker are Docker Engine, Docker Images, and Docker Containers. The Docker Engine is the runtime that builds and runs containers. Docker Images are read-only templates used to create containers. These images can be pulled from Docker Hub (a public registry) or custom-built using a Dockerfile—a script that defines how the image should be created. Once an image is created, it can be instantiated as a container. A Docker container is a running instance of an image. Unlike virtual machines (VMs), containers do not include an entire operating system. Instead, they share the host system's kernel, which makes them much more lightweight and faster to start and stop compared to VMs. This efficiency allows for better resource utilization and scalability. Docker also supports orchestration tools like Docker Compose and integrates with container orchestration platforms such as Kubernetes for managing multi-container applications at scale. With Compose, developers can define and run multi-container Docker applications using a simple YAML file.

Docker has transformed DevOps and CI/CD pipelines by making application deployment faster, more predictable, and less error-prone. Developers can build and test containers locally, push them to a registry, and deploy the same container image to production with confidence that it will behave identically.

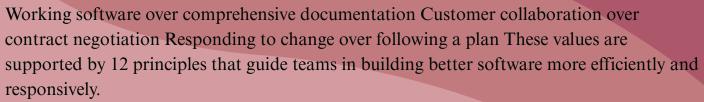
In summary, Docker enhances software development and deployment by providing a consistent and portable environment through containerization. It simplifies the development lifecycle, increases productivity, and supports modern cloud-native application architectures. Whether you're a developer, system administrator, or DevOps engineer, understanding Docker is essential in today's software development landscape.

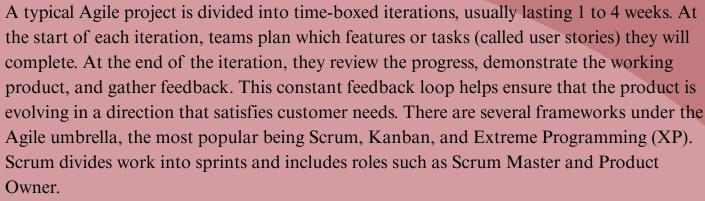
Agile Methodology

Agile methodology is a modern approach to software development that emphasizes flexibility, collaboration, and customer satisfaction. It is based on iterative development, where requirements and solutions evolve through the collaborative effort of crossfunctional teams. Unlike traditional, linear methods like the Waterfall model, Agile focuses on delivering small, workable pieces of software in short cycles called iterations or sprints.

Agile was formally introduced in 2001 through the Agile Manifesto, which outlines four key values:

Individuals and interactions over processes and tools





Kanban focuses on visualizing work using boards to manage flow and limit work in progress.

XP emphasizes engineering practices like test-driven development and pair programming. One of Agile's biggest strengths is its adaptability. Since software development often faces changing requirements, Agile allows teams to pivot quickly and prioritize tasks based on customer feedback. This increases the chances of delivering a high-quality product that meets real user needs.

Agile also promotes better team dynamics and accountability. Daily stand-up meetings, sprint retrospectives, and continuous integration keep team members aligned and proactive. However, Agile does require a high level of discipline, communication, and a culture of trust within teams to be successful.

In summary, Agile methodology is a flexible, iterative approach to software development that focuses on customer collaboration, continuous improvement, and quick delivery of valuable software. It has become the preferred method in many organizations due to its responsiveness to change and emphasis on delivering real value.



RADHA KRISHNAN

Assistant professor

Artificial Intelligence: Redefining Innovation and Intelligence

Artificial Intelligence (AI) is revolutionizing the modern world by transforming how we live, work, and interact. It involves machines simulating human-like cognitive abilities such as learning, reasoning, problem-solving, and decision-making. These capabilities are made possible through a combination of disciplines including computer science, data science, mathematics, and neuroscience.

AI systems rely on algorithms and massive datasets to identify patterns, learn from experiences, and make decisions with minimal human intervention. One of the foundational aspects of AI is machine learning (ML), which enables machines to learn from data and improve over time without being



SAILU Assistant Professor

explicitly programmed. Another important area is natural language processing (NLP), which helps machines understand and respond to human language. Additionally, computer vision allows systems to interpret and analyze visual content, while generative AI creates original content like text, images, and music.

The impact of AI spans across many industries. In healthcare, it is used for early diagnosis, personalized medicine, and even in performing robotic surgeries. In finance, AI supports activities such as fraud detection, algorithmic trading, and automating customer interactions. Everyday tools like Siri, Alexa, and Google Assistant rely on AI to interpret voice commands and assist users. It is also foundational to self-driving cars, recommendation systems on streaming platforms, and software development assistants.

A major recent development is the rise of AI agents and copilots—advanced tools capable of reasoning, planning, and performing complex tasks in collaboration with humans. These systems serve not only as helpers but also as creative and strategic partners, reshaping the nature of work and productivity.

Despite its benefits, AI introduces ethical and societal concerns. Issues like algorithmic bias, invasion of privacy, potential job displacement, and lack of transparency in AI decision-making call for careful oversight. Responsible development of AI requires clear governance, ethical standards, and inclusive practices to ensure that its benefits are shared equitably.

Looking ahead, AI holds immense potential to solve global challenges such as climate change, disease management, and education gaps. However, its development must be guided by foresight, accountability, and a commitment to human-centered values. When harnessed responsibly, AI can not only redefine innovation but also contribute to building a more sustainable and inclusive future.

The Evolution and Impact of Artificial Intelligence Technology

Artificial Intelligence (AI) refers to the creation of computer systems capable of performing tasks that typically require human intelligence, such as reasoning, learning, decision-making, and understanding language. Since its beginnings in the 1950s with symbolic reasoning, AI has progressed remarkably, now powered by advanced neural networks like GPT-4 and AlphaFold. This evolution has been fueled by increasing computational power, access to big data, and the development of sophisticated algorithms. Major milestones in AI history include IBM's Deep Blue defeating



V.MOUNIKA
Assistant professor

Major milestones in AI history include IBM's Deep Blue defeating chess champion Garry Kasparov in 1997, the emergence of deep learning in 2012, and OpenAI's launch of ChatGPT

in 2022, which brought generative AI into the mainstream. Core areas of AI include Machine Learning (ML), where algorithms learn from data to make predictions through methods such as supervised, unsupervised, and reinforcement learning; Deep Learning (DL), which employs multilayered neural networks like CNNs for image recognition, RNNs for sequence data, and Transformers for language modeling; Natural Language Processing (NLP), which enables machines to understand and generate human language; and Computer Vision, which allows machines to interpret and analyze visual data. Newer developments include Generative AI, capable of producing text, images, audio, and video; Edge AI, which brings intelligence directly to devices to enhance privacy and reduce latency; and Multimodal AI, which can process and understand inputs from multiple sources at once. The applications of AI span a wide range of industries, including healthcare, where it aids in diagnostics and protein modeling; finance, where it is used for fraud detection and document analysis; education, through personalized learning platforms; manufacturing, with predictive maintenance; and transportation, by enabling autonomous navigation. Despite its potential, AI also presents ethical, legal, and societal challenges, such as algorithmic bias, data privacy issues, surveillance risks, and job displacement. Global initiatives, like the EU AI Act, are being introduced to ensure the responsible development and deployment of AI. Looking forward, areas such as Artificial General Intelligence (AGI), neuromorphic computing, and AI alignment are at the forefront, aiming to ensure AI systems behave in line with human values. While AI holds immense promise, its advancement must be accompanied by thoughtful governance to maximize benefits and minimize harm to society.

Virtual and Augmented Reality

Virtual Reality (VR) and Augmented Reality (AR) are transforming how we experience digital content, offering new ways to interact with the world around us and within virtual environments. These technologies are rapidly evolving, finding applications in gaming, education, healthcare, retail, and beyond. Virtual Reality (VR) immerses users in a fully digital environment, cutting them off from the physical world. Using a headset that covers the eyes and ears, VR transports users into computer-generated settings. This makes VR ideal for gaming, where users can explore immersive worlds, or for simulations in fields like aviation and medicine, allowing pilots and surgeons to train safely and effectively without real-worlds.



BHAGYALAKSHMI

Assistant professor

and surgeons to train safely and effectively without real-world risks. Augmented Reality (AR), on the other hand, overlays digital elements onto the real world, enhancing the physical environment. AR works through smartphones, tablets, or AR glasses by recognizing surroundings and adding information in real time. From Snapchat filters and Pokémon GO to applications like Google's Live Transcribe, AR is already making everyday tasks more interactive and accessible.

The key differences between VR and AR lie in immersion and the environment. VR offers a highly immersive, completely digital experience, while AR provides a moderate level of immersion by blending the digital with the physical. Device-wise, VR requires specialized headsets, whereas AR often functions through devices we already own, such as smartphones.

Applications are widespread and growing. In gaming, VR allows for deep, story-driven immersion, while AR turns physical spaces into interactive playgrounds. In education, AR can make textbooks come alive, helping students visualize complex topics. Healthcare has embraced both technologies—VR for therapy and simulation training, AR for assisting in real-time surgical procedures. In real estate, VR offers virtual property tours, while in retail, AR lets users try on products like clothes or makeup virtually before buying.

Looking ahead, the future holds even more promise with Mixed Reality (MR)—a blend of AR and VR that allows digital and physical elements to interact seamlessly. As technology becomes more advanced and accessible, we can expect to see AR and VR play a larger role in how we learn, work, and play. With continual advancements, these immersive technologies are set to redefine our relationship with digital information and the world around us.

Cherished Chapters: Faculty Farewells

Mrs. T. Naga Praveena

We express our sincere gratitude to Ms. T. Naga Praveena for her valuable association with the Department of CSE (DS). Her teaching, mentoring, and dedication to student development have been appreciated by both peers and learners alike. Her involvement in the growth of Innovista from its early stages was a testament to her encouragement of creativity and innovation among students.



Through her guidance, students found the confidence to explore new ideas and take part in meaningful activities beyond the classroom. Her time here has been marked by professionalism, teamwork, and a spirit of contribution. The department thanks her for being a part of our collective journey and for adding value to our academic environment. We wish her continued success and happiness in the path ahead.

We also fondly acknowledge the warmth and dedication she brought into her work. Whether in the classroom, during department events, or in casual interactions, she always made students and colleagues feel welcomed and supported. Her presence added to the friendly and encouraging atmosphere we value in our department, and her absence will certainly be felt.

Mr. Anoop Kumar

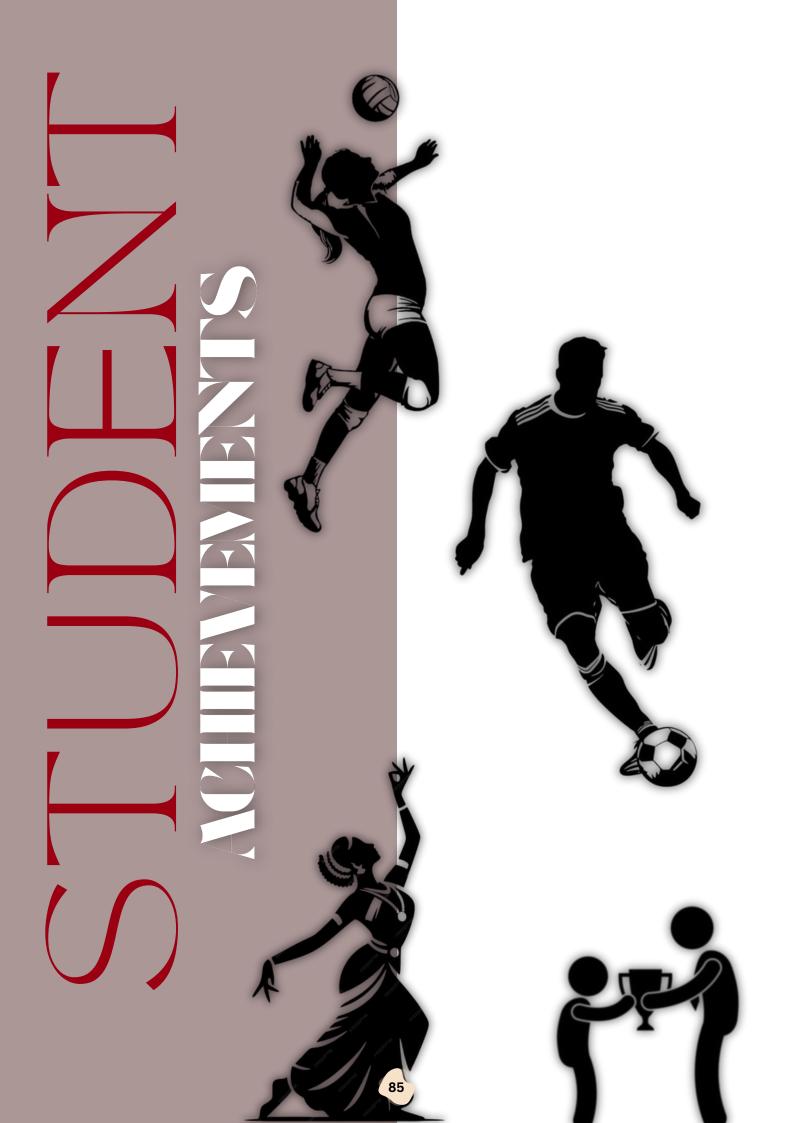
The Department of CSE (DS) expresses its heartfelt thanks to Mr. Anoop for the time, effort, and dedication he invested during his association with us. His commitment to sharing knowledge and guiding students has been greatly valued and appreciated. He actively contributed to the academic growth of the department and consistently showed support for student initiatives, both inside and outside the classroom.



His willingness to help, collaborate, and bring fresh perspectives made him a respected and approachable faculty member.

We also fondly acknowledge the positivity and encouragement he brought into his work. Whether conducting lectures, assisting in events, or interacting with students, he created an environment where learning felt engaging and accessible. His presence has been a source of motivation for many, and his absence will certainly be felt across the department.

We are truly thankful for the role he played in shaping both academic and cocurricular activities during his time here. We wish him continued success, happiness, and fulfillment in all his future endeavors.



Microsoft Learn Student Ambassadors (MLSA)



D Harish Reddy, III CSE-DS C Section was selected as an MLSA Alpha in November 2024

He was promoted to Beta in December 2024, and received his official Beta Kit from MLSA.





He also launched the MLSA MRCE Club in December 2024 to promote tech learning, skill development, and student collaboration.



K S S Ram Charan G Sangamesh G Nikhil Sagar K Lalith Kumar Pavan Kumar

EVENT: HackNwin

Participation: Hackathon

Place: IIC, MRCE

POSITION: 1st place

D Harish Reddy 22Q91A67E2



On successful completion of Google Cloud Arcade Program 2024, earning appreciation from Google and exclusive swags.



G. MANIKANTA 23Q91A67D8

EVENT: Rojamma Memorial State Level Sports Fest 2025.

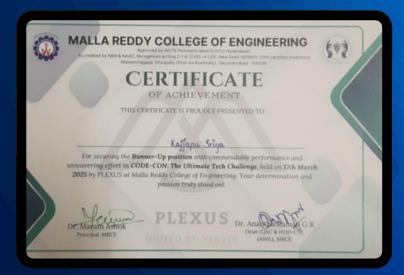
PARTICIPATION: Athletics (200 m).

POSITION: 2nd place(26.46sec)

G Sangamesh K Lalith Kumar K Nuthan Sai

EVENT: Technicasl Quiz MRCET 2025. POSITION: 2nd place





K Sriya K Sruthi

EVENT: Plexus
PARTICIPATION: Codecon
POSITION: 2nd place



G Sangamesh K S S Ram Charan K Sai Vamshi

EVENT: Inquistive
PARTICIPATION: Quiz
POSITION: 2nd place





Shiva Abhilash Nikhil Mahendhar

EVENT: Plexus- VERBOFIESTA PARTICIPATION: Word Weave POSITION: 2nd place





Chandana Sree Varsha

Winners of Skill
Develpoment Program



Srinidhi Sangamesh Ram Charan

EVENT: Space Day 2024 PARTICIPATION: Poster

Presentation

POSITION: 1st place

Shiva

EVENT: Plexus- VERBOFIESTA PARTICIPATION: Commersial

Time

POSITION: 2nd place





Sangamesh K S S Ram Charan

EVENT: Plexus
PARTICIPATION: Codecon
POSITION: 1st place





KSS Ram Charan

EVENT: Hack4SDG
Special Appreciation prize
Venue: IIT Hyderabad

Sai Charan

EVENT: Visita 2k25
PARTICIPATION: Dance
POSITION: 1st place





SRIJA SUVARCHALA

EVENT: Visita 2k25
PARTICIPATION: Dance
POSITION: 3rd place

K Sriya K Sruthi

EVENT: Women's day CONDUCTED BY: CSE

PARTICIPATION: Paper Presentation

POSITION: 1st place



Advisors Experience

Advisor Report – Innovista Technical Club

It has been a rewarding experience serving as the faculty advisor for the Innovista Technical Club. The journey throughout the academic year has been filled with creativity, learning, collaboration, and innovation, aligning perfectly with the club's core objectives to foster technical excellence and leadership among students.

As an advisor, I had the privilege of witnessing the evolution of the club from a small group of enthusiastic students into a dynamic body that actively contributed to the technical vibrancy of our institution. The club organized several impactful events, including workshops on emerging technologies like Artificial Intelligence, IoT, and Cybersecurity; technical quizzes; hackathons; coding events; and project expos that offered students a platform to showcase their skills and knowledge. These events not only improved the participants' technical proficiency but also encouraged peer learning and teamwork.

The club has also been instrumental in nurturing innovation by supporting students to take part in national and state-level competitions. Many of our members received accolades and recognition for their outstanding contributions and problem-solving ideas.

From an advisor's standpoint, the most gratifying aspect has been the transformation of students into confident individuals capable of leading, communicating, and thinking critically. The Innovista Technical Club has truly become a space where passion meets purpose, and I am proud to have played a role in its journey.

I extend my sincere thanks to the college management and faculty members for their constant support, and to the student coordinators whose dedication has been the backbone of the club's success. With continued enthusiasm and support, I am confident that Innovista will scale even greater heights in the years ahead.

With Regards,
Dr.J.Gladson Maria Britto,
HOD-CSE-DS & AI&DS

CAMPUS PLACEMENTS

2K24-2K25

	NAME OF THE STUDENT	ROLL NUMBER	COMPANY PLACED
1	NALLAN CHAKRAVATHULA YASHWINI	21Q91A7230	24HR7 COMMERCE PVT LTD
2	PALLE VENKATAA ASWITHADEVI	21Q91A7232	24HR7 COMMERCE PVT LTD
3	KUMMARI SAICHARAN	21Q91A7224	CORIZO
4	SANTOSH KUMAR REDDY	21Q91A7205	PLANET SPARK
5	VANI TELU	21Q91A7242	SAVANTIS SOLUTIONS
6	VINAY GOPALAPURAM	21Q91A7243	SAVANTIS SOLUTIONS
7	G.VARSHA	21Q91A7212	SAVANTIS SOLUTIONS
8	VIVEK KOTAGIRI	21Q91A7218	TECH MAHINDRA
9	KUMMARI SAI CHARAN	21Q91A7227	TECH MAHINDRA
10	KANUGANTI VENKAT NARAYANA	21Q91A7217	GRAD GURU
11	ALA SHIVA KUMAR REDDY	21Q91A7201	GRAD GURU
12	GOLI VARSHA	21Q91A7212	GRAD GURU
13	GUVVA PRASHANTHI	21Q91A7216	GRAD GURU
14	VIVEK KOTAGIRI	21Q91A7218	GRAD GURU

	NAME OF THE STUDENT	ROLL NUMBER	COMPANY PLACED
15	KUMMARI SAI CHARAN	21Q91A7224	GRADGURU
16	PAMU SAI GAUTHAM	21Q91A7234	GRADGURU
17	KANCHARLA MANASA	21Q91A6724	24HR7 COMMERCE PVT LTD
18	MAMIDIPALLI CHANUKYA	21Q91A67A1	24HR7 COMMERCE PVT LTD
19	AMIT DAS	21Q91A67C4	24HR7 COMMERCE PVT LTD
20	GUTTI JAGATH PUSHKAR DEEP	21Q91A6723	24HR7 COMMERCE PVT LTD
21	METTU UDAYA GEETHA THATITHOTI	21Q91A6731	CORIZO
22	MANIDEEP	21Q91A6757	CORIZO
23	TOOMKUNTLA DIVYA MOHAMMED	21Q91A6758	CORIZO
24	NOORUDDIN	21Q91A67A3	CORIZO
25	AMIT DAS BONDHUGULA	21Q91A67C4	CORIZO
26	DEEKSHITH	21Q91A67D1	CORIZO
27	NALAM PADMASRI	21Q91A67F9	CORIZO
28	U MADHU DEEPIKA	21Q91A67H2	CORIZO

	NAME OF THE STUDENT	ROLL NUMBER	COMPANY PLACED
29	MAHESH BABU DEVARAYA	21Q91A6710	Planet Spark
30	NPADMASRI	21Q91A67F9	Planet Spark
31	NIKHITA KULKARNI	21Q91A67A6	Planet Spark
32	PRATYUSHA DAURKAR	21Q91A6768	Planet Spark
33	I.ROHITHA SAI SIVANI	21Q91A6720	Savantis Solutions
34	KANCHARLA MANASA	21Q91A6724	Savantis Solutions
35	METTU UDAYA GEETHA	21Q91A6731	Savantis Solutions
36	THATITHOTI MANIDEEP	21Q91A6757	Savantis Solutions
37	TOOMKUNTLA DIVYA	21Q91A6758	Savantis Solutions
38	DAURKAR PRATYUSHA	21Q91A6768	Savantis Solutions
39	NIKHITA KULKARNI	21Q91A67A6	CORIZO
40	T POOJITHA REDDY	21Q91A67B6	CORIZO
41	AMIT DAS	21Q91A67C4	Savantis Solutions
42	DEEKSHITH BONDHUGULA	21Q91A67D1	Savantis Solutions
43	THARALA LAYA	21Q91A67H1	Savantis Solutions

	NAME OF THE STUDENT	ROLL NUMBER	COMPANY PLACED
44	J JASWANTH KRISHNA	22Q95A6713	SAVANTIS SOLUTIONS
45	S.P.N. VIDYA DEVI	21Q91A6750	SAVANTIS SOLUTIONS
46	MEGHANA	21Q91A6775	SAVANTIS SOLUTIONS
47	LIKITHA MAHANTHI	21Q91A6798	SAVANTIS SOLUTIONS
48	N PADMASRI	21Q91A67F9	SAVANTIS SOLUTIONS
49	JHAANSI SAI.M	22Q95A6719	SAVANTIS SOLUTIONS
50	METTU UDAYA GEETHA	21Q91A6731	INFOSYS
51	AKULA MOHITH GANESH	21Q91A6702	GRADGURU
52	DEVARAYA MAHESH BABU	21Q91A6710	GRADGURU
53	MADDIKUNTLA DEEPTHI	21Q91A6729	Grad Guru
54	S.P.N.VIDYA DEVI	21Q91A6750	Grad Guru
55	G VEERABHDRA	21Q91A6705	Grad Guru
56	PRATYUSHA DAURKAR	22Q95A6768	Grad Guru
57	ENDEL DEEPSHIKA	21Q91A6777	Grad Guru
58	NALLANAGULA ADHARSH	21Q91A67A5	Grad Guru

	NAME OF THE STUDENT	ROLL NUMBER	COMPANY PLACED
59	NALAM PADMASRI	21Q91A67F9	GRAD GURU
60	KEERTHI SHIVAMPETA	21Q91A67G8	GRAD GURU
61	THARALA LAYA	22Q95A67H1	GRAD GURU
62	T POOJITHA REDDY	21Q91A67B6	GRAD GURU
63	AKULA MOHITH GANESH	21Q91A6702	GRADGURU
64	KANCHARLA MANASA	21Q91A6724	TECH MAHINDRA
65	NASEER AHMAD	21Q91A6738	TECH MAHINDRA
66	G.VEERABHADRA	22Q91A6705	TECH MAHINDRA
67	HARSHITHA REDDY	21Q91A6751	TECH MAHINDRA
68	NAVYASRI PADALA	21Q91A6740	TECH MAHINDRA
69	VIDVA DEVI SALADI	21Q91A6750	TECH MAHINDRA
70	NALLANAGULA ADHARSH	21Q91A67A5	GRAD GURU
71	NALAM PADMASRI	21Q91A67F9	GRAD GURU
72	KEERTHI SHIVAMPETA	21Q91A67G8	GRAD GURU
73	THARALA LAYA	22Q95A67H1	GRAD GURU
74	T POOJITHA REDDY	21Q91A67B6	GRAD GURU
75	AKULA MOHITH GANESH	21Q91A6702	GRADGURU

	NAME OF THE STUDENT	ROLL NUMBER	COMPANY PLACED
76	CHANUKYA MAMIDIPALLI	21Q91A67A1	TECH MAHINDRA
77	KANCHARLA MANASA	21Q91A6724	TECH MAHINDRA
78	THARALA LAYA	22Q95A67H1	GRAD GURU
79	T POOJITHA REDDY	21Q91A67B6	GRAD GURU
80	AKULA MOHITH GANESH	21Q91A6702	GRADGURU
81	NALLANAGULA ADHARSH	21Q91A67A5	GRAD GURU
82	NALAM PADMASRI	21Q91A67F9	GRAD GURU
83	KEERTHI SHIVAMPETA	21Q91A67G8	GRAD GURU
84	THARALA LAYA	22Q95A67H1	GRAD GURU
85	T POOJITHA REDDY	21Q91A67B6	GRAD GURU
86	AKULA MOHITH GANESH	21Q91A6702	GRADGURU
87	AMBARAGONDA MANASA	22Q95A6704	TECH MAHINDRA
88	A GOUTHAM RAJU	22Q95A6703	TECH MAHINDRA
89	PRASHANTH DONGRE	21Q91A6771	TECH MAHINDRA
90	DOLI KARTHIK	22Q95A6770	TECH MAHINDRA
91	PRATYUSHA DAURKAR	21Q91A6768	TECH MAHINDRA
92	JEEDIPALLI RISHMA	21Q91A6784	TECH MAHINDRA
93	ERRA VARSHA	21Q91A6778	TECH MAHINDRA

	NAME OF THE STUDENT	ROLL NUMBER	COMPANY PLACED
94	SILASAGARAM SOWJANYA	21Q91A6791	TECH MAHINDRA
95	TIRUMALA SRI SAI TEJA	22Q91A67B7	TECH MAHINDRA
96	A.HARISHANKAR	21Q91A6712	TECH MAHINDRA
97	SHINDE PRAVEEN PATIL	21Q91A67B5	TECH MAHINDRA



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<u>OF</u>

"HEART TO HAND HELPERS CLUB"



DATE: 30-9-24 TIME: 2 PM @Seminar Hall



Mrs. P.V Harika ,Mr.M.Radhakrishnan Mrs.Afreen

Dr.J.Britto

Dr.M. Ashok

FACULTY COORDINATORS

HoD/CSE-DS & AI&DS

PRINCIPAL

"Start where you are. Use what you have.
Do what you can."





As we close this edition of our magazine, We would like to take a moment to express our gratitude to our readers and contributors. We are thrilled to have been able to share with you the inspiring stories, innovative ideas, and creative works of our fellow students.

We hope that the content of this magazine has inspired you to think outside the box, to explore new possibilities, and to strive for excellence. As we look to the future, we invite you to join us in our mission to foster a culture of innovation, creativity, and collaboration. Stay tuned for updates on our upcoming events, workshops, and projects, and let's work together to make a positive impact in our community. Thank you for being a part of the Innovista family!

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