

Volume - 1

April- June 2024

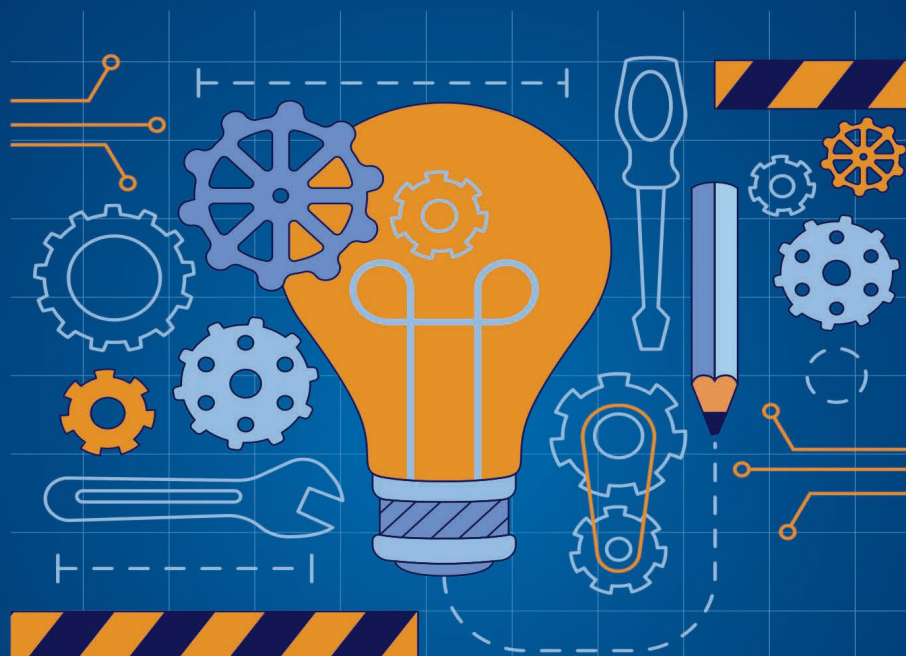


K.R. MANGALAM UNIVERSITY

THE COMPLETE WORLD OF EDUCATION

School of Engineering & Technology

PRISM



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FROM EDITORS DESK



Dear Readers,

As we present this quarterly newsletter, I am filled with immense pride in the remarkable achievements and progress our school has made. This quarterly edition highlights the vibrant academic and research activities that define our commitment to excellence. From groundbreaking research initiatives to innovative teaching methodologies, we continue to push boundaries and set new standards. As a philosophy of SOET, Students and faculties are always encouraged to bring out their talents and knowledge beyond the scope of curriculum and pedagogy. The significant facets of the school newsletter are the contribution of the ongoing batch of the students, alums and faculty under the label of literary articles, technical articles, ongoing trends, technology and events. We believe each student of SOET is blessed with unique capability and novel thought process. This is evidenced as they portrayed their skill and ideas in the domain, they have chosen for themselves.

Happy Reading!

Dr. Shweta Bansal

PRISM- Chief Editor

School of Engineering and Technology

K R Mangalam University

FROM EDITORS DESK

Dear Readers

Welcome to the latest edition of our quarterly newsletter. This publication is a testament to the dedication and hard work of our entire school members. Each page reflects our institution's vibrant spirit, showcasing innovative research, academic excellence, and community engagement. Our faculty and students have achieved significant milestones, and their stories are a source of inspiration for us all. As we navigate through these dynamic times, let us continue to support and uplift each other, fostering a culture of collaboration and growth. I am grateful to everyone who contributed to this edition and to our readers for their continued interest and support.

We wish safe and healthy times ahead while you enjoy reading the digital version of the School Newsletter- PRISM.

Happy Reading

Ms. Jyoti Chaudhary

PRISM- Managing Editor

School of Engineering and Technology

K R Mangalam University



FROM THE VICE CHANCELLOR'S DESK



First, let me thank and congratulate the editorial team for successfully producing yet another edition of PRISM. PRISM is an appreciative idea for both faculty and students to express their creativity and talents. I am glad to announce that PRISM is now in its third successive edition of production. It is firmly on its way to becoming a proud KRMU tradition. PRISM is a superb platform for faculty and students to manifest their academic, research and creative skills. It is also an endearing memento of the time spent in School of Engineering and Technology by our outgoing students. It is a document and tribute to the inspiration you have received from your teachers, and challenges you have dealt with in your quest for knowledge, learning and the acquisition of life skills. I am certain that the education you – as our batch of graduating students – have received at KRMU will prepare you to respond with strength and forbearance in the face of new tasks that you will encounter ahead. I wish you great success for all your future plans and careers! I am, once again, truly delighted to see PRISM go into production. It is a significant testimony to the supervision and support that students have received from their mentoring faculty. It is both the excellent guidance of our faculty as well as the creative talents of our students that make this volume an engaging and commendable success!

Prof. (Dr.) Raghuvir Singh

Vice Chancellor
K.R Mangalam University

FROM THE DEAN'S DESK

It is my pleasure to pen down a message for this edition of PRISM Newsletter, published quarterly by the School of Engineering & Technology. PRISM serves as a dynamic platform for students and faculty to share their technical and literary articles, achievements, and school activities. PRISM enables our students to express their thoughts and creativity, fostering a culture of innovation and intellectual growth.

Additionally, PRISM enables our stakeholders, particularly our alumni, to stay connected with us and share their insights and accomplishments, enriching our community with their experiences. This interaction not only strengthens our network but also inspires our current students by showcasing the diverse paths our graduates have taken.

On behalf of the school, I wish to congratulate the dedicated editing team of PRISM for their tireless efforts in producing the quarterly edition for April 2024 to June 2024. Your hard work and commitment are greatly appreciated, and I look forward to seeing the continued success and impact of PRISM in the future.

Dr. Pankaj Agarwal

Dean, School of Engineering & Technology
K.R Mangalam University



ABOUT SCHOOL: VISION & MISSION

The School of Engineering & Technology at K.R. Mangalam University offers various undergraduate and postgraduate programs. The aim of these programs is to equip the students with knowledge, skills and provide a professional approach in the field of Engineering and Technology, to make them capable in successfully meeting the present requirements and future challenges in the Engineering Profession. SOET brings together outstanding academicians, industry professionals and experienced researchers to impart hands-on and multi-disciplinary learning experience.

Vision

To create, disseminate, and apply knowledge in science and technology to meet the higher education needs of India and the global society, to serve as an institutional model of excellence in scientific and technical education characterized by integration of teaching, research and innovation.

Mission

- To create an environment where teaching and learning are prioritised, with all support activities being held accountable for their success.
- To strengthen the institution's position as the school of choice for students across the State & Nation.
- To promote creative, immersive, and lifelong learning skills while addressing societal concerns.
- To promote co- and extra-curricular activities for over-all personality development of the students.
- To promote and undertake all-inclusive research and development activities.
- To instil in learners an entrepreneurial mindset and principles.
- Enhance industrial, institutional, national, and international partnerships for symbiotic relationships.
- To help students acquire and develop knowledge, skills and leadership qualities of the 21st Century and beyond.

ADVISORY BOARD MEMBERS

The School of Engineering & Technology has established an advisory board to guide its developmental strategies, enhance industry alignment, and foster innovative research and educational excellence.

The purpose of the Advisory Board is multifaceted:

- Advise the School of Engineering & Technology on matters related to engineering education and training, research, service and professional development.
- Recommend actions to enhance public awareness of and engagement with the school's education and training programs, services, and resources
- Respond on behalf of the school to questions of industry needs, and the college's capacity to respond and serve

The Advisory Board is integral to our strategic academic and developmental objectives, offering guidance on a variety of crucial areas, including:

- Helping identify and establish clear career pathways for our students.
- Advising on policies and practices to maintain alignment with industry standards and educational goals.
- Ensuring our curriculum remains aligned with industry needs and workforce standards.
- Promotion of the programs and services throughout the community and the state.
- Articulation of agreements with other education and training institutions.
- Policies and practices as they relate to industry standards and educational aims.
- Extend their domain expertise to our students/faculty through technology training, project mentoring, invited talks, workshops, seminars etc.
- Provide linkage & connect with industry for student's internships, student recruitment and scholarships.
- Advising on opportunities that lead to innovative research directions and partnerships most appropriate for KRMU.
- Identifying outreach needs in which engineering has a significant role and fostering connections with entrepreneurial entities.
- Establishing connections with relevant industries for Memorandums of Understanding, consultancy projects, and more.

The distinguished members of the SOET Advisory Board are listed below for your kind approval.



Prof. (Dr.) P. S. Grover

Former-Professor, Dean, Director, and HoD, Delhi University Former-Director General at GGS Indraprastha University



Prof (Dr.) B. Chandra

Adjunct Professor, Indian Institute of Technology, Delhi



Dr Sanjeev Kumar Varshney

Former-Head, International Scientific Cooperation Ministry / Department of Science & Technology, Government of India



Dr. Sharat Kaushik

Director (NGF Group of Colleges)



Prof. (Dr.) Brij B. Gupta

Director, International Center for AI and Cyber Security Research and Innovations (CCRI) & Distinguished Professor Department of Computer Science and Information Engineering (CSIE) Asia University, Taiwan



Syed Afzal Murtaza Rizvi

Professor, Department of Computer Science, Jamia Millia Islamia, New Delhi



Usha Jagannathan

Director for AI Products, IEEE, USA



Mr. Siddhant Verma

Lead (AI, Data Science and BI team)



Director Dr. Kamal Rawal

Head of Department & Professor
Center for Computational Biology and Bioinformatics, Amity University, Noida



Mr. Subhajit Bhattacharya

Associate Vice President, Accenture



Rajinder Chitoria

Data Scientist and Director at Froyo Technologies (P) Ltd

MESSAGE FROM ADVISORY COMMITTEE

I am delighted to extend my warmest greetings through this newsletter. As we advance in our collective journey of academic excellence and innovation, let us continue to foster a spirit of collaboration and intellectual curiosity. Our commitment to rigorous research, impactful teaching, and community engagement remains paramount. Together, we can navigate the challenges ahead and create a brighter future for our institution. Thank you for your unwavering dedication and contributions. I extend my heartfelt congratulations to all for their dedication and hard work, and I am confident in our collective ability to shape a brighter future.

Best regards,



Prof. (Dr.) P. S. Grover
Advisory Committee
Member



Mr. Rajinder Chitoria
Advisory Committee Member

It is an honour to address you all as part of our esteemed Advisory Committee. Our institution's journey towards excellence is marked by the relentless pursuit of knowledge and innovation. The achievements of our students and faculty are a testament to their dedication and passion. As we navigate the ever-evolving landscape of education and research, let us remain steadfast in our mission to inspire and empower. Our collective efforts are building a legacy of distinction, one that will influence future generations. I am proud to be part of this remarkable community and look forward to the continued success and growth of our institution.

Best regards,

OUR ACHIEVERS: FACULTIES & STUDENTS

Dr. Pankaj Agarwal, Dean of the School of Engineering and Technology (SOET), has been honored with the prestigious "Indian Icon Award for Most Influencing Professor." This esteemed accolade recognizes Dr. Agarwal's exceptional contributions to the field of engineering education and his unwavering commitment to academic excellence.

Under Dr. Agarwal's visionary leadership, SOET has achieved remarkable milestones, fostering a culture of innovation and research.

His dedication to mentoring and inspiring students has not only enriched their academic journey but also significantly impacted their professional growth. Dr. Agarwal's pioneering efforts in integrating cutting-edge technologies into the curriculum have positioned SOET at the forefront of engineering education in India.





Dr. Shweta Bansal, HOD-CSE department was invited to chair a technical session at the 3rd International Conference on Advanced Communication and Intelligent Systems, held at Jawaharlal Nehru University, New Delhi, from May 15-17, 2024. She also visited IIT Guwahati to work on her project, "Voice Enabled Biometric System for Faculty/Staff Attendance," in the Speech Lab under the SEED Grant. During her visit, she met with Prof. (Dr.) P. K. Das, Head of the CSE Department, to discuss research collaboration with the Centre of Excellence in AI. They agreed to sign a Letter of Intent with K.R. Mangalam University in June, formalizing their partnership to advance joint research initiatives, share resources, and promote academic exchange between the institutions.

Dr. Nupur Jangu, Assistant Professor, SOET received an invitation to Speak at the International Conference on "Greece and India: History, Society, Science and Entrepreneurship" at Jawaharlal Nehru University, New Delhi on 16th-17th May 2024. The conference was organised under the auspices of the Greek Chair at JNU in collaboration with the esteemed partners: International Hellenic University, Aristotle University of Thessaloniki, and National and Kapodistrian University of Athens. At the conference in Track 3: "Informatics, Technology and Innovation" she presented her work "SSCTM: A Digital Twin for Building Sustainable Smart Cities".



We are proud to announce that Devesh Tiwari, a dedicated student from the CSE Department of the School of Engineering and Technology, has successfully cleared the GATE exam 2024. This remarkable achievement is a testament to Devesh's hard work, perseverance, and commitment to academic excellence. Clearing the GATE exam opens numerous opportunities for higher studies and research, reflecting the quality education and guidance provided by our esteemed faculty. We congratulate Devesh on this outstanding accomplishment and wish him continued success in all his future endeavours. His achievement is an inspiration to all students and a proud moment for our institution.

COLLABORATIONS : Memorandum of Understanding Between KRMU and VOLGA INFOSYS PVT. LTD. on 8th May 2024

To foster in training, skill development, consultation, and the development and marketing of Augmented Reality, Virtual Reality, Mixed Reality, Web 3.0 (Blockchain), and Game Development, particularly in IT. The collaboration will offer a vibrant innovation ecosystem, accelerating learning through practical experiences and mentorship from qualified teachers, fostering innovation and discovery. The collaboration will work on enhancing ICT skills for Technical and Engineering students through classroom and industry-specific practical training/visits, ensuring quality delivery and excellence in ICT.



Memorandum of Understanding Between KRMU and ProLift Technologies Private Limited on 10th May 2024

The primary focus of this collaboration is to operationalize the technology bank and .enhance the capacity-building mechanism in science, technology, and innovation



RESEARCH & INNOVATION

Research Papers

Paper Title	Authors	Date of Publications
An Inspection on Big Data Applications, Analytics, Challenges and Services	Dr. Saneh Lata, Dr. Tanvi Chawla	June 2024
Optimizing compressive strength in sustainable concrete: a machine learning approach with iron waste integration	Dr. Rupesh Kumar Tipu, Dr. Vandna Batra, Ms. Suman	20 May2024
Predictive Modelling of Flexural Strength in Recycled Aggregate-Based Concrete: A Comprehensive Approach with Machine Learning and Global Sensitivity Analysis	Dr. Rupesh Kumar Tipu	14 June 2024

Patents

Title of the Invention	Inventor Name	Date
Machine learning-enhanced graphical interface for optimized concrete mix design	Dr. Rupesh Kumar Tipu	10 th May 2024
IoMT Guard: A Novel Intrusion Detection Framework For IoMT using Convolutional Neural Networks	Dr. Preeti Rath, Dr. Rashmi Priya	19th April 2024
Assessment and deployment of a lossless steganography framework	Dr. Rahul Kumar Singh, Dr. Sakshi Kathuria, Dr. Tanvi Chawla, Dr. Riman Mandal, Dr. Saneh Lata Yadav, Mr. Harsh Vardhan	17th May 2024
Neural NetGuard: An Invention for Deep Learning Models SafeGuarding Industrial IoT Against Malicious Attacks	Dr. Rahul Kumar Singh, Dr. Sakshi Kathuria, Dr. Tanvi Chawla, Dr. Riman Mandal, Dr. Saneh Lata Yadav, Mr. Harsh Vardhan	10th May 2024
Method and system for enhanced satellite image processing and analysis	Mr. Harsh Vardhan	19th April 2024

Mobile Stand	Dr. Tanvi Chawla	16th May 2024
Cloud based deep learning model management system for enterprise applications	Dr. Riman Mandal	14th June 2024
Adaptive resource provisioning in cloud environments using data mining and machine learning	Dr. Riman Mandal	17th May 2024
System and method for intelligent resource management using deep learning in cloud computing environments	Dr. Riman Mandal	07th June 2024

CLUBS AND CENTERS : The Computer Society of India (CSI)



Project Exhibition Competition

The Project Exhibition Competition, held on 2nd April 2024, in B Block Lab-6, showcased the creativity and problem-solving skills of our students. Under the supervision of Dr. Surabhi Shanker and Dr. Rashmi Priya, faculties of SOET, the event saw enthusiastic participation with numerous projects addressing real-world issues. Projects were evaluated on creativity,

technological aspects, functionality, design, and readability. Vedant Chadha (B.Tech CSE) and Dheeraj Kumar (MCA) secured the first and second places, respectively, demonstrating exceptional innovation and technical prowess. Their outstanding projects highlighted the innovative spirit and technical excellence of our students, making the competition a resounding success. Congratulations to all participants and winners for their impressive contributions!

Tech Odyssey 2024



An event Tech Odyssey 2024, held on 2nd May, 2024, at our university campus. This inter-university tech fest featured a range of thrilling events, including Battle Blitz, Flag Quest, Code Clash, Web Dash, and Reel Craft. With 226 participants from various universities and colleges, the fest was a true celebration of innovation, creativity, and technical

prowess. Participants showcased remarkable talent and ingenuity, making the competition both vibrant and exhilarating.

Tech Odyssey 2024 provided an enriching educational experience for all involved, and we extend our congratulations to all participants and winners for their exceptional performances.

Activities under Center of Excellence: Robotics & Automation

National Technology Day-2024 @KRMU @DST Haryana



On the occasion of National Technology Day, K R Mangalam University, Gurgaon in support with Haryana State Council for Science, Innovation and Technology, DST grant given to Dr. Puja Acharya; hosted a vibrant celebration on May 14, 2024. The event commenced with an inaugural ceremony lamp lighting graced by esteemed dignitaries from the field of technology, academia, and industry. Prof. Raghuvir Singh, Vice Chancellor K R Mangalam University, delivered the opening address, emphasizing the



pivotal role of technology in shaping the future. Special guests Prof (Dr) Rakesh Sinha (Dean Research KRMU) Prof. Mehraj Uddin Mir (Chair, Motilal Nehru) and Mr. Shivam Kumar (Co-founder and Chief Executive Officer at Volga Infosys Private Limited) shared insights into the latest advancements and their potential impact on various sectors. Prof. Pankaj Agarwal, Dean SOET told the students about the importance of this day and motivated them to empower the nation through their valuable skills.

Mindbenders 3.0- Igniting Innovation

In the realm of technological innovation, where creativity meets functionality, K.R. Mangalam University in Gurugram played host to Mindbenders 3.0, a dynamic and cutting-edge project competition held on the 29th and 30th of April. This event, which witnessed the convergence of more than 58 teams from various universities, served as a platform for budding technocrats to showcase their prowess in both hardware and software domains.

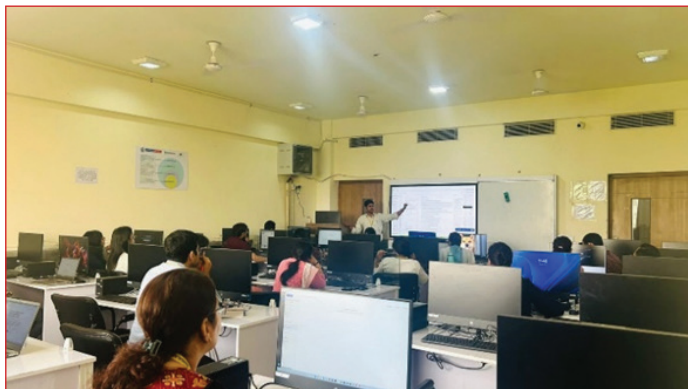
With an aura of excitement and anticipation, the event kicked off with Lamp Lighting, setting the stage for a showcase of ingenuity and inventiveness. Prof. Raghuvir Singh, Vice-Chancellor, KRMU motivated the students to dream, aspire for innovation for a collective vision for a better tomorrow. Dr. Rakesh Sinha, Dean Research, KRMU also sparked the event through his valuable words of wisdom and inspired the students to take part in such project competitions. Prof. Pankaj Agarwal, Dean, SOET also leave an indelible mark on the participants, comprising bright minds from diverse backgrounds, brought forth their innovative projects. Dr. Puja Acharya, Chairperson of Centre of Robotics and Automation, welcomed the student participants and igniting the spark of innovation and propelling participants to achieve in



fields of AI, Robotics and Drones.

Each project was evaluated on various parameters, including innovation, technical complexity, and societal impact. Team Pet Guard, KRMU won the first Position. Team Agro-sahayak (DCE), Team Mechano-Master KRMU achieved second and third position respectively. Teams like Solar sunflower, Bharat Kisan, Geo-scan, Conversion AI, Electro-physics won the consolation prizes in the event.

Empowering Research Excellence: Tools for Effective Scientific Research



The Center of Excellence-AI, at KRMangalam University organized a Workshop on Empowering Research Excellence: Tools for Effective Scientific Research, on 11th May 2024, led by Dr. Rupesh Kumar, Assistant Professor at School of Engineering and Technology, KRMU. The workshop covered key aspects such as the research process, writing strategies, literature review, data presentation, citation ethics, and dissemination tactics. Dr. Rupesh introduced three essential tools:



Mendeley for citation management, ChatGPT for writing assistance, and OriginPro for data analysis. These tools streamline literature review, improve writing clarity, and enhance data presentation, aiding researchers in effectively communicating their findings and enhancing productivity. Students gained valuable resources to optimize their writing process, improve research quality, increase productivity, and summarize the content.

Invited Session: Dr. Usha Jagannathan



The School of Engineering and Technology hosted an invited session by Dr. Usha Jagannathan, Director for AI Products at IEEE, USA, for an interactive session with faculty and students on May 30th, 2024. A leading technologist and AI innovation expert, Dr. Jagannathan led a compelling discussion on ethical and sustainable AI, focusing on both opportunities and challenges in the evolving AI landscape. Dr. Jagannathan emphasized the importance of aligning AI development with ethical standards

and sustainability goals to ensure transparency and accountability. She provided valuable insights into AI's potential to drive societal benefits. During the event, students showcased their AI projects and received practical feedback from Dr. Jagannathan, helping them refine their work.

She also expressed a keen interest in collaborating with the school, offering her expertise to support various Centers of Excellence in driving innovative AI research.

Workshop on GitHub and Kaggle

On April 10th, 2024, the CSI Student Chapter, in collaboration with the Centre of Excellence-AI, organized a hands-on workshop on GitHub and Kaggle. Conducted by Mr. Abhinav Sinha, founder of TuteMap.com, the workshop provided practical insights into software development and data science tools. With 112 participants, the event was a resounding success, offered students a valuable opportunity to gain practical experience and enhance their technical skills under expert guidance.



EVENTS CORNER : Workshop on Virtual Labs



Date: 18th April 2024

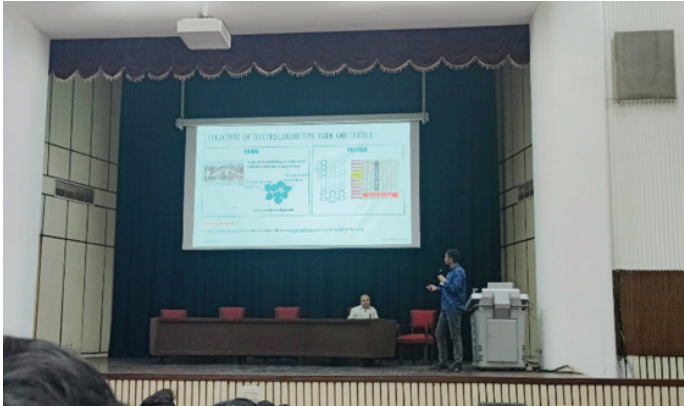
School of Engineering and Technology, KRMU, as a Nodal Center of Virtual Labs, IIT Delhi, conducted a One-Day Workshop on Virtual Labs on 18th April 2024. Virtual Labs is a venture of the Ministry of Education (MOE), Government of India, under its National Mission on Education through Information and Communication Technology (NME-ICT).

The event was graced by two experts from IIT Mr. Shivam Yadav and Mr. Chandan Kumar currently working with Virtual Labs as Field Engineer and Senior Field Engineer and coordinated by Ms Nupur Jangu

(Assistant Professor, CSE) and Mr Harsh Vardhan, Assistant Professor, CSE. Experts, guided students and faculties through the virtual lab's platform. Virtual labs aim to provide remote-access simulation-based labs in Science and Engineering disciplines to spark student curiosity and aid learning.

Starting next semester, the School of Engineering and Technology is integrating Virtual Lab into its curriculum. This initiative promises enhanced practical learning experiences and will enable students to conduct experiments remotely, explore complex concepts, and develop vital skills in a flexible and accessible environment.

Visit to CSIR-NPL



Date: 25th April 2024

School of Engineering and Technology is delighted to share a brief overview of our recent visit to CSIR-NPL, New Delhi. The visit was coordinated by Dr. Owais, Assistant Professor, SOET, Dr. Riman Mandal, Assistant Professor, SOET and with an insightful presentation by esteemed experts Dr. Suraj Khanna (Senior Principal Scientist) and Dr. Satish Singh (Principal Scientist), showcasing



their groundbreaking work in e-textiles. Following the presentation, students witnessed firsthand demonstrations by the scientists, highlighting the conductive properties of e-textiles. The visit then transitioned into hands-on activities, providing participants with practical insights into the technology. A stimulating QA session followed, offering a platform for insightful discussions including internship opportunities and research collaborations.

AI-Powered Job-Hunting Workshop



Date: 14th May 2024

We would like to extend our gratitude to all 60 SOET students who attended the AI-Powered Job-Hunting Workshop organized by the Career Development Center on 14th May 2024 for SOET. Your active participation contributed to the success of the event. During the workshop, we had the privilege of hosting two esteemed guest speakers:

1. Mr. Akhil Kumar, Senior Software Engineer at

Geekster

2. Mr. Ankit Maggu, Co-founder of Geekster

Both speakers shared invaluable insights into leveraging artificial intelligence in job hunting, providing practical tips and strategies for success in today's competitive job market. The event was successfully coordinated by Dr. Monika Khatkar, Assistant Professor, SOET and Dr. Shikha Khurana, Assistant Professor, SOET.

Visit to Bharat Mandapam, Delhi

Date: 17th May 2024

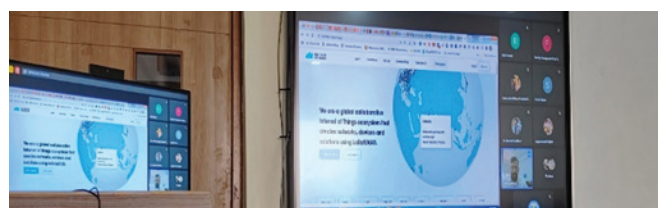
Students from the School of Engineering and Technology (SOET) participated in the inaugural AI Bharat event held on May 17th at Bharat Mandapam, Pragati Maidan, Delhi. This exciting event, a collaboration between the Indian Institute of Technology (IIT) Ropar, Masai School, and the National Skill Development Corporation (NSDC), marked the launch of a jointly certified minor program in Artificial Intelligence (AI) and Machine Learning (ML). Overall, 90 students from the School of Engineering and Technology attended this event along with the faculty coordinators Dr. Monika Khatkar, Assistant Professor, SOET and Mr. Apoorva Jain, Assistant Professor, SOET.

The event featured prominent AI experts and cutting-edge advancements in the field. SOET students actively engaged in sessions on machine learning,



deep learning, and AI ethics. These sessions provided valuable insights and practical skills, allowing them to explore innovative AI applications in healthcare, finance, and robotics. Hands-on workshops further solidified their learning and understanding.

FDP on Communication Technologies



Date: 27th -31st May 2024

School of Engineering and Technology hosted a highly successful Faculty Development Program (FDP) on "Communication Technologies - Connectivity Evolutions" under Center of Excellence from May 27th to May 31st, 2024. This event marked a significant milestone for the university as it became a remote center for the National Institute of Technical Teachers Training and Research (NITTTR) for this FDP.

Dr. Pankaj Agarwal, Dean – School of Engineering & Technology, remarked, we are proud to have

successfully hosted this FDP as a remote center for NITTTR. It reflects our commitment to providing high-quality education and staying at the forefront of technological advancements.

Dr. Owais Shah, STC Coordinator (Assistant Professor, SOET) and Member Secretary of the Centre of Excellence in Robotics and Automation, K.R. Mangalam University, emphasized, the resounding success of this FDP is a testament to our commitment to academic excellence. The Centre of Excellence in Robotics and Automation continues to foster innovation and advanced learning.

Farewell of Passing Out Batch-2024 (The Last Hurrah)



Date: 31st May 2024

On May 31, 2024, the School of Engineering and Technology organized a farewell party titled "The Last Hurrah" for the graduating batches of 2024. The event was held in the C Block Canteen. It began with a warm welcome for the seniors and faculty members followed by Tikka ceremony. The event was inaugurated with Ganesh vandana. Dr. Pankaj Aggarwal, the Dean of SOET, shared inspiring words with the graduates, offering her best wishes and expressing a hopeful desire to remain connected with them as they embark on new journeys. The junior batches put on an extraordinary show, dazzling everyone with their music and dance performances. The energy in the room was electric as students showcased their talents and creativity.



The highlight of the evening was undoubtedly the glamorous ramp walk, where titles such as Mr. and Ms. Farewell, Mr. and Mr. and Ms. Personality were awarded. A sumptuous grand lunch was served, providing a delightful spread for everyone to enjoy. The event was meticulously coordinated by Ms. Archana Goyal (Assistant Professor, SOET), Dr. Preeti Rathi (Assistant Professor, SOET) and Dr. Monika Khatkar (Assistant Professor, SOET). Their efforts, along with the enthusiastic support of student coordinators from various departments, ensured the event's success. The day was filled with laughter, smiles, and countless photographs, capturing the essence of this memorable occasion. It was a day of celebration, and the creation of lasting memories that will be cherished by all.

Industry Visit to Thomson Press India. Pvt. Ltd.

Date: 14th June 2024

Students from the School of Engineering & Technology at K.R. Mangalam University visited Thomson Press India Pvt. Ltd. in Faridabad. Established in 1967, Thomson Press is a leader in printing and publishing, offering high-quality offset and digital printing services. This visit was coordinated by Dr. Kaushal Kumar, Associate Professor, SOET which provided students with firsthand insights into modern printing technologies, workflows, and quality control. They explored advanced machinery, automation, Industry 4.0 applications, and digital printing technologies. The experience enhanced their understanding of the practical aspects of the printing industry and real-world applications of graphic design, publishing, and production management. Congratulations to all involved for making this visit a success!



TECHNICAL ARTICLES

Edge Computing: Empowering the Next Wave of Digital Transformation

In the realm of modern technology, where speed, reliability, and real-time responsiveness are paramount, edge computing has emerged as a transformative force. Unlike traditional cloud computing models that centralize data processing in remote servers, edge computing brings computation and data storage closer to the devices and sensors that generate data. This proximity significantly reduces latency, ensuring that critical applications can operate with minimal delay, making it ideal for use cases ranging from autonomous vehicles to IoT-enabled smart cities.

At its core, edge computing leverages a distributed network of micro data centers or edge servers located geographically closer to end-users or IoT devices. This proximity enhances the efficiency of data processing, as it minimizes the distance data needs to travel, thereby reducing latency and improving application performance. For instance, in autonomous vehicles, split-second decisions are crucial for ensuring safety on the road. By processing sensor data locally within the vehicle or at nearby edge nodes, edge computing enables rapid decision-making without relying on distant cloud servers, which may introduce delays due to network latency.



Moreover, edge computing plays a pivotal role in sectors such as healthcare, manufacturing, and retail. In healthcare, for instance, wearable devices and remote patient monitoring systems can utilize edge computing to analyze patient data in real-time, allowing for immediate medical interventions and reducing the need for constant connectivity to central servers. In manufacturing, edge computing facilitates predictive maintenance of industrial machinery

by processing sensor data locally, thus minimizing downtime and optimizing operational efficiency. Looking ahead, the integration of edge computing with emerging technologies like 5G and artificial intelligence (AI) promises even greater advancements. 5G networks will provide the high-speed, low-latency connectivity necessary to support a vast network of edge devices and enable applications requiring ultra-fast data processing. AI algorithms deployed at the edge will enhance data analytics capabilities, enabling edge devices to perform advanced computations and make intelligent decisions autonomously.

As businesses continue to adopt IoT solutions and embrace digital transformation, the role of edge computing will only grow in significance. It represents not just a technological advancement but a fundamental shift towards a decentralized computing paradigm that empowers organizations to harness data more effectively, innovate rapidly, and deliver superior customer experiences in our increasingly interconnected world. Edge computing is indeed poised to redefine how we interact with technology, driving efficiency, scalability, and innovation across industries.

Dr. Meenu

Associate Professor, CSE, SOET



Empowering Tomorrow

The Evolution of Additive Manufacturing

In the landscape of manufacturing, Additive Manufacturing (AM), or 3D printing, stands as a beacon of innovation. From its inception as a prototyping tool to today's sophisticated systems capable of printing with metals, ceramics, and biomaterials, AM has evolved exponentially, transcending boundaries and reshaping industries.

AM's evolution heralds a new era of manufacturing, one where complexity is embraced, customization is king, and creativity knows no bounds. It's a journey that beckons you, the next generation of engineers and visionaries, to explore its endless possibilities.

As you delve into the world of engineering, AM offers a gateway to groundbreaking opportunities. Whether you aspire to revolutionize aerospace, healthcare, or sustainable design, AM empowers you to turn imagination into reality.

But AM's significance extends beyond its technological prowess; it symbolizes inclusivity, accessibility, and democratized innovation. With advancements in software, hardware, and material science, the barriers to entry are lower than ever, inviting everyone to participate in shaping the future.

So, the journey based on the evolution of Additive Manufacturing isn't just a technological marvel; it's a testament to human ingenuity and the relentless pursuit of progress.

Dr. Kaushal Kumar

Associate Professor, ME, SOET

Heterogeneous Integration and Chiplets



In the ever-evolving landscape of semiconductor technology, advancements are not just about making transistors smaller or faster but also about rethinking how components come together to form powerful systems. One of the most promising trends in this regard is Heterogeneous Integration and the advent of Chiplets. Heterogeneous Integration refers to the practice of combining different materials, technologies, and functionalities into a single system. Traditionally, semiconductor devices were built monolithically, with all components integrated into a single piece of silicon. However, as demands for performance, efficiency, and versatility grow, the limitations of this approach become more apparent. Chiplets represent a paradigm shift in semiconductor design and manufacturing. Instead of cramming all functionalities onto a single large die, chiplets break down complex systems into smaller, individual components, each performing a specific function. These chiplets can be developed independently using different processes and then integrated into a single package, or even onto a single substrate, using advanced assembly techniques.

Chiplets offer significant advantages in modern semiconductor design. They enable modular design, allowing different functional blocks like CPUs, GPUs, memory, and I/O to be developed independently by diverse teams or vendors. This modularity not only enhances design flexibility but also accelerates time-to-market for new products. Specializing chiplets for specific tasks enhances performance targets while maintaining power efficiency and cost-effectiveness. This specialization also facilitates easier upgrades and customization across diverse applications. Additionally, chiplets improve manufacturing cost efficiency by leveraging economies of scale in production processes for each component, leading to higher yield rates and overall reliability.

Chiplets find versatile applications across various industries. From data centres optimizing server performance to consumer electronics enhancing device capabilities and automotive industries enabling advanced driver-assistance systems, chiplets are poised to revolutionize various sectors by offering tailored solutions with enhanced performance and efficiency. Challenges such as interconnects and thermal management are being actively addressed through industry collaborations, ensuring compatibility and reliability across diverse applications. As these technologies mature, they promise to redefine the landscape of semiconductor design, driving innovation and efficiency across industries.

Dr Owais A. Shah

Assistant Professor, ECE, SOET

Deep Learning: Transforming Image Processing

In recent years, deep learning has fundamentally transformed the field of image processing, revolutionizing how we interpret and interact with visual data. By harnessing the capabilities of artificial neural networks, deep learning enables computers to achieve a human-like understanding and manipulation of images, opening up a myriad of applications across diverse industries. Central to deep learning is the concept of artificial neural networks, particularly convolutional neural networks (CNNs), which are designed to emulate the human brain's pattern recognition abilities. CNNs comprise multiple layers that automatically and adaptively learn to extract features from raw image data. This hierarchical structure allows deep learning models to discern intricate details, making them exceptionally effective for image classification, object detection, and image generation.



One of the most significant applications of deep learning in image processing is in healthcare, where medical imaging modalities such as MRI, CT scans, and X-rays produce vast amounts of data requiring precise analysis. Deep learning models have shown remarkable accuracy in diagnosing diseases by analyzing these images. For instance, CNNs can detect tumors, fractures, and other abnormalities with precision that rivals human experts, thus aiding doctors in making faster and more accurate diagnoses. Similarly, deep learning has been pivotal in advancing autonomous vehicle technology, as self-driving cars heavily rely on real-time image processing to navigate complex environments. These algorithms process data from cameras and sensors to recognize and respond to traffic signs, pedestrians, and other vehicles, ensuring the safety and efficiency of autonomous driving systems. In the retail sector, deep learning enhances customer experiences through image-based applications. Visual search engines allow customers to upload images of products they are interested in, and the system finds similar items available for purchase. Additionally, deep learning algorithms power virtual fitting rooms, enabling customers to see how clothes would look on them without physically trying them on, thus transforming online shopping experiences.

Despite its transformative potential, deep learning in image processing faces several challenges, including the need for large datasets and significant computational resources. Ensuring the diversity and quality of training data is crucial to avoid biases and guarantee robust performance across various scenarios. Moreover, interpretability remains a concern, as deep learning models are often seen as "black boxes" with decisions that are difficult to explain. However, the future of deep learning in image processing is promising, with ongoing research aimed at addressing these challenges. Techniques such as transfer learning and federated learning are being explored to make deep learning models more efficient and accessible. Deep learning has undeniably transformed image processing, enabling breakthroughs across various domains, driving innovation, and

improving outcomes in healthcare, autonomous vehicles, retail, and beyond. As we continue to refine these technologies and address their challenges, the impact of deep learning on image processing will only grow, opening up new possibilities for how we interact with and benefit from visual information. By embracing deep learning, we are paving the way for a future where machines can see and understand the world around us, enhancing our lives in ways we are only beginning to imagine.

Ms. Archana Goyal

Assistant Professor, CSE, SOET

COMMUNITY CONNECT

School of Engineering and Technology at K.R Mangalam University conducted a case study on Youth Led Entrepreneurship Development. Through interactive sessions, class 12 students of Government Girls Sr. Sec. School, Alipur and Ghamroj explore various aspects of entrepreneurship, including idea generation, market research, business planning, and pitching. Our case study held immense promise as a driver

of rural development and inclusive growth. By prioritizing digital literacy initiatives, leveraging government schemes, and fostering collaborative partnerships, we can empower rural youth to become engines of innovation, job creation, and social change in their communities. This activity had the potential to cultivate a new generation of entrepreneurial leaders poised to drive societal and economic change in the years to come.



PLACEMENTS

Sr. No.	Program	Roll No	Student's Name	Company	Domain
1.	B.Tech	2001010024	Onkar Vatsa	Infyni	Wed Development
2.	B.Tech	2001010028	Utkarsh Srivastava	Uno Minda Limited	Software Developer Intern
3.	B.Tech	2001010031	Amit Kumar Jha	Groveus Information Pvt. Ltd.	Web Development
4.	B.Tech	2001010001	Manav Dewan	Own Business	Entrepreneur
5.	B.Tech	2001010034	Payushi Tyagi	SoftAge	Technical Content Writer
6.	B.Tech	2001010057	Sagar Jain	Starhealth	Intern
7.	B.Sc	2101830008	Diya Chaudhary	Wayspire Ed-Tech Pvt. Ltd.	Marketing Manager
8.	B.Sc	2101720004	Tarang Balani	SoftAge Info. Tech. LTD	Prompt Engineer
9.	B.Sc	2101720005	Rojalin Mahapatro	SoftAge Info. Tech. LTD	Prompt Engineer
10.	B.Sc	2101720006	Dev Chaudhary	Wayspire Ed-Tech Pvt. Ltd.	Digital Marketing
11.	B.Sc	2101720008	Deepak Jain	Wayspire Ed-Tech Pvt. Ltd.	Digital Marketing
12.	MCA	2201560002	Simran	School Teacher	Computer Teaching

INTERNSHIPS

Sr. No.	Program	Roll No	Student's Name	Company	Domain
1	B.Tech	2001010009	Pranab Bhardwaj	Octanet SW	Web Development
2	B.Tech	2001010010	Tejpal	Kunshan Q Tech Microelectronics Pvt. Ltd.	COB AI-Engineer
3	B.Tech	2001010017	Shivam Pathak	Grabbit Media Private Limited	Wed Development
4	B.Tech	2001010021	Krishna Kaushal	Grabbit Media Private Limited	Wed Development
5	B.Tech	2001010022	Yatin	Shipway Technologies	Associate Intern-Software Engineer
6	B.Tech	2001010027	Ankit	Q3 Technologies	.net developer
7	B.Tech	2001010032	Anirudh Jainw	Primathon	Marketing
8	B.Tech	2001010038	Sagar	Cloud Counselage Pvt. Ltd.	DevOps-intern
9	B.Tech	2001010045	Shubham Kumar Vats	Slash Mark	Full Stack Web Development
10	B.Tech	2001010047	Divyanshu Darolia	Shipway Technology Pvt Ltd	Associate Intern-Software Engineer
11	B.Tech	2001010049	Vansh Malhotra	EonForge Technologies	GTE
12	B.Tech	2001010051	Kanak Jadaun	Busy Infotech Private Ltd	Software Developer Intern
13	B.Tech	2001010052	Aman Shekhar	Leadership 30	Web Development
14	B.Tech	2001010055	Rishav Jha	Vinayan Consulting and Services PVT LTD	Intern
15	B.Tech	2001010058	Yash Kumar Gautam	Y Hills	Digital Marketing Intern
16	B.Tech	2012730003	Aksh Bhatia	Publicis Resources	Data Scientist Intern
17	B.Tech	2001020003	Vinay Dhankhar	KNtech Solutions Inc.	Technical Engineer and design trainee
18	B.Tech	2012730002	Vaibhav Srivastava	Ernst & Young	AI Engineer Intern
19	B.Tech	2001010005	Neel Verma	CSIR	Data Analytics
20	B.Sc	2101830005	Krishanu Gautam	CFSS Cyber & Forensics Security Solutions	IT Services and IT Consulting
21	BCA	2101060001	Harsheeta Kapoor	ALTAIR Engineering India PVT. LTD.	Content Writer and Web Designing
22	BCA	2101060005	Raunit Arya	CSIR	Data Scientist Intern

23	BCA	2101060006	Yashmit Sharma	B'zee Bee Technologies	Web Designing Intern
24	BCA	2101060008	Yash Sati	Source Fuse technologist India	Web Designing Intern
25	BCA	2101060011	Mayank Rai	CSIR	Web Development Intern
26	BCA	2101060016	Sanket Chauhan		Web Development Intern
27	BCA	2101060024	Virat Tayal	CSIR	Web Development Intern
28	BCA	2101060035	Kumar Harsh	TIB Einnovation PVT. LTD	Content Writer and Web Designing
29	BCA	2101060036	Aryan Pandey	CSIR	Web Development Intern
30	BCA	2101060037	Annanya Agarwal	whsik software	Software development Intern
31	BCA	2201062040	Aayush Ujjwal	Tech Vision	Full Stack Website Development
32	MCA	2201560046	Shivani	Delente Technologies Pvt. Ltd	Digital Marketing
33	MCA	2201560049	Sandeep Kumar	Think Next	Digital Marketing
34	MCA	2201560050	abhishek bisht	Tech Vision	Full Stack Website Development using MERN Stack.
35	MCA	2201560051	sakshi	Cognifyz	SDE
36	MCA	2201560006	Nancy	Academor	Web Development
37	MCA	2201560007	Pratibha	Academor	Web Development
38	MCA	2201560011	rohan sharma	Infostechs PVT. LTD.	Web Development
39	MCA	2201560012	Sonali Rout	Cognifyz	GTE
40	MCA	2201560015	Saroj Choudhary	Celebal	Data Science
41	MCA	2201560021	Sweta Tewatia	Academor	Web Development
42	MCA	2201560023	Neha	CodeAlpha	Data Science Intern
43	MCA	2201560026	Prashant Kumar Majumdar	Debcor Engineering	Associate SAP Consultant
44	MCA	2201560031	sworaj sahu	Academor	Web Development
45	MCA	2201560035	Sahil Rajpal	TechFolk Solutions	Java Developer Intern
46	MCA	2201560040	Piyush	Shipway	Software Engineer
47	MCA	2201560043	Sakshi	Cognifyz	Web Development

OUR ALMUNI



Pratyush Mohan

Alumni of K.R Mangalam University,
Batch 2018-2022

I was under the School of Engineering & technology (SOET) department of K.R Mangalam University, had an amazing time & experience while pursuing my 4 years B. Tech program under the guidance and support of my teacher's & mentor. They all guided me so well & supported me in all my learning experiences in those 4 years. I had a great time. Special thanks to Amar Sir, Monika Ma'am & Pallavi Ma'am for bringing out the best in me. At last, I would like to thank all the members of SOET department for providing me with quality education and learnings.



Nidhi Jha

Alumni of K.R Mangalam University,
Batch 2019-2023

I had an amazing time & experience while pursuing my 4-year degree. I would like to take a bow to each of the CSE faculty because during my course, they all guided me so well & supported me in all my learning experiences from scratch. A Special thanks to Ashwani sir who has mentored me, Shweta Bansal ma'am for giving me opportunities to stand, Monika Ma'am for being always there for me & Pallavi Ma'am for helping me each way possible. Finally, I would like to thank all the members of SOET department for providing me with quality education and learnings. Those four years were nothing less than a blessing, spend the best of life there.



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