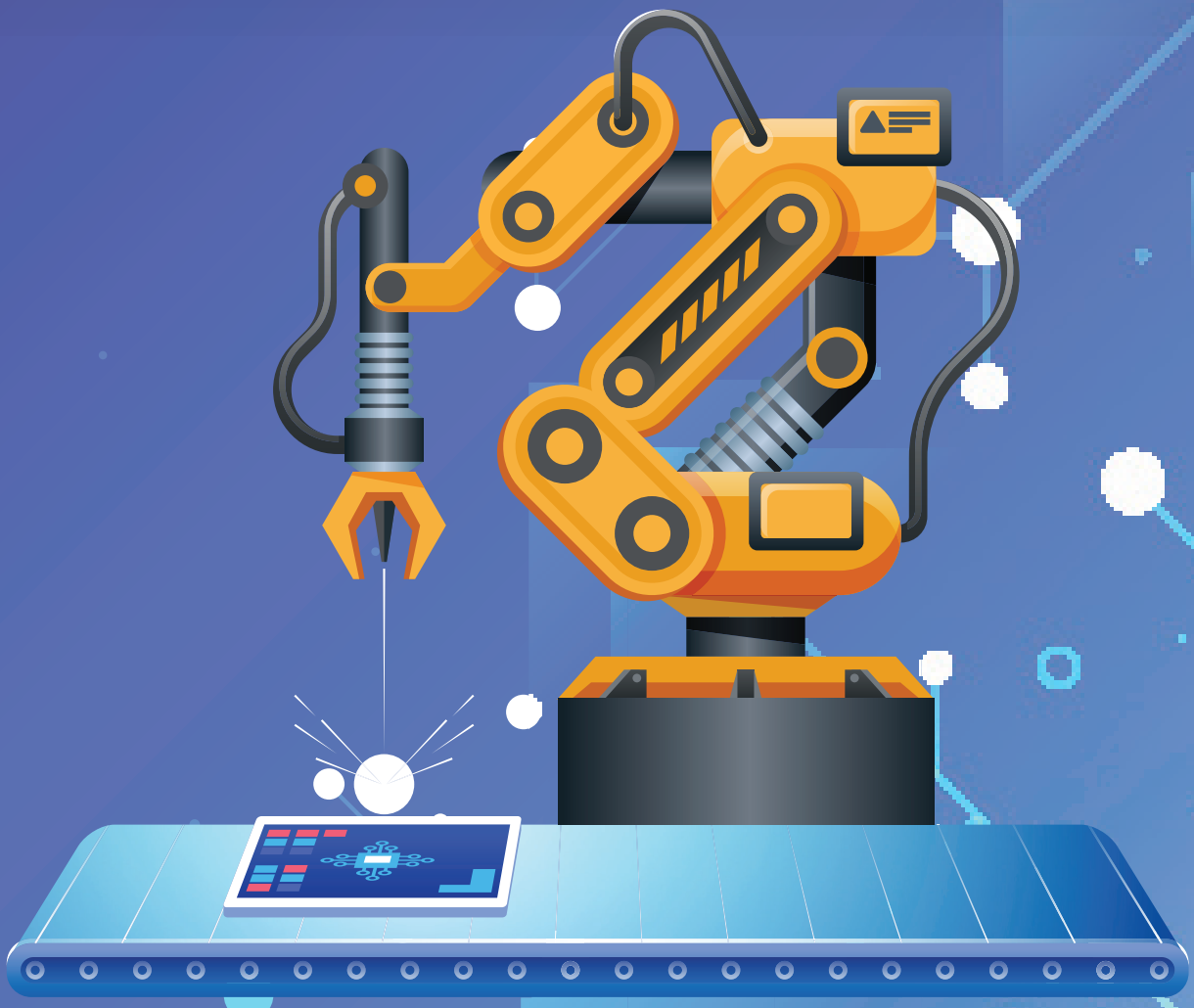
K.R. MANGALAM UNIVERSITY

THE COMPLETE WORLD OF EDUCATION

SCHOOL OF ENGINEERING AND TECHNOLOGY

PRISM

NEWSLETTER JULY-SEP 2024



EDITOR'S DESK

Dear Readers,

As we present this quarterly edition of PRISM, the newsletter of the School of Engineering and Technology (SOET) at K.R. Mangalam University, I am overwhelmed with pride in the outstanding achievements and advancements our school has accomplished. This edition encapsulates the dynamic academic and research endeavours that reflect our unwavering commitment to excellence and innovation.

At SOET, we are continually striving to push the boundaries of knowledge through groundbreaking research initiatives and the adoption of progressive teaching methodologies. Our philosophy emphasizes nurturing talents and fostering creativity among both students and faculty, encouraging them to explore avenues beyond the conventional curriculum and pedagogy.

PRISM serves as a vibrant platform that showcases the diverse contributions of our students, alumni, and faculty. From thought-provoking literary and technical articles to insights into emerging trends, technologies, and events, this newsletter encapsulates the spirit of innovation and intellectual growth that defines SOET. We firmly believe that every student at SOET possesses a unique set of skills and a novel thought process. This belief is consistently validated by the remarkable ideas and accomplishments they bring forth in their chosen domains. Their creativity and expertise shine through as they navigate the intersection of knowledge and innovation, contributing significantly to the ethos of our institution.

As you explore the pages of this edition, we invite you to celebrate the vibrant energy and ingenuity that propel SOET toward ever greater heights. Let this newsletter be a testament to our collective pursuit of excellence and a source of inspiration for the entire SOET community.

Happy Reading

Dr. Shweta Bansal
PRISM- Chief Editor
School of Engineering and Technology
K R Mangalam University

EDITOR'S DESK

Dear Readers,

It is with immense pleasure that I welcome you to the third quarter edition of PRISM, the School of Engineering and Technology newsletter that connects us to the vibrant and dynamic world of technological advancements, research, innovation and achievements of our faculty, students and alums.

This quarter has been marked by exciting developments across various domains of engineering, with a spotlight on new MoU, technical events, publications and faculty contributions in field of engineering. Our newsletter captures these advancements, presenting a curated collection of articles, success stories, and thought-provoking insights. These stories not only reflect our institution's commitment to excellence but also inspire the broader engineering community to dream, design, and deliver.

I extend my heartfelt gratitude to all contributors, writers, and the editorial team for their unwavering dedication to making PRISM a compelling read. To our readers, thank you for your continued support and enthusiasm.

Let's continue to celebrate the spirit of engineering and innovation!

Happy Reading!

Warm Regards

Kriti Sharma
Editor- PRISM
Third Quarter, 2024
School of Engineering and Technology
K R Mangalam University

FROM IQAC DESK

It is with great pride and joy that I write for this edition of PRISM, the quarterly newsletter of the School of Engineering and Technology (SOET) at K.R. Mangalam University. As a cornerstone of intellectual and creative expression, PRISM has consistently showcased the vibrant academic and extracurricular endeavors of our school, reflecting the ethos of excellence we strive for.

The past editions of PRISM have been nothing short of remarkable, offering a platform for students, faculty, and alumni to share their insights, achievements, and innovative ideas. These editions have not only highlighted the accomplishments within SOET but have also inspired a culture of continuous learning, collaboration, and innovation. I extend my heartfelt appreciation to the editorial team for their dedication, creativity, and attention to detail, which have made each edition a resounding success.

At the IQAC (Internal Quality Assurance Cell), we believe that initiatives like PRISM play a vital role in enhancing the quality of education and fostering a dynamic learning environment. The newsletter acts as a bridge, connecting various stakeholders – students, faculty, alumni, and industry experts – and creating a cohesive community committed to growth and excellence.

As we look forward to future editions of PRISM, I am confident that the editorial team will continue to raise the bar with their innovative approach and unwavering commitment. I encourage all contributors to bring forth their best ideas, insights, and achievements, ensuring that PRISM remains a beacon of inspiration and a testament to the incredible talent within SOET.

On behalf of the IQAC, I extend my best wishes to the editorial team and contributors for the continued success of PRISM. May it continue to inspire, inform, and celebrate the essence of SOET for years to come.

Warm regards,

Dr Shikha Dutt Sharma
IQAC Coordinator
K.R Mangalam University

WORDS FROM THE LEADERSHIP

Prof. (Dr.) Raghuvir Singh
Vice Chancellor

Dear Readers

I extend my sincere gratitude and congratulations to the editorial team for the successful production of yet another edition of PRISM- School of Engineering and Technology Newsletter. This initiative has become a distinguished platform for faculty and students to exhibit their academic achievements, research contributions, and creative talents.

It is a matter of great pride to announce that PRISM has now reached its third consecutive edition of year 2024, firmly establishing itself as a significant tradition at K.R. Mangalam University. Beyond its role as a publication, PRISM serves as a testament to the academic rigor and creative expression that define the School of Engineering and Technology. For our graduating students, this edition holds special significance as it captures the essence of your academic journey, the inspiration derived from your mentors, and the challenges you have successfully navigated. It stands as a tribute to your perseverance and dedication in the pursuit of knowledge and skills essential for personal and professional growth.

As you embark on the next phase of your lives, I am confident that the education and experiences you have gained at KRMU will empower you to face future challenges with confidence and determination. I extend my best wishes for success in all your endeavours and career aspirations.

The production of PRISM is a commendable achievement, reflecting the exceptional mentorship and guidance of our faculty and the remarkable creativity and enthusiasm of our students. This publication is a shining example of collaboration and excellence, and I am pleased to see it evolve as a cornerstone of our university's academic culture.

Let us continue to uphold the legacy of PRISM as a reflection of innovation, scholarship, and the vibrant spirit of KRMU. Congratulations to all contributors for this outstanding accomplishment.

FROM THE DEAN'S DESK

Dr. Pankaj Agarwal

Dean, School of Engineering & Technology

It is an honor to share my thoughts for this edition of PRISM, the quarterly magazine of the School of Engineering and Technology (SOET) at K.R. Mangalam University. PRISM stands as a vibrant platform, enabling our students and faculty to showcase their technical expertise, literary creativity, achievements, and the diverse activities of our school.

The magazine serves as a conduit for our students to articulate their thoughts and unleash their creativity, fostering a thriving culture of innovation and intellectual growth. Additionally, PRISM plays a pivotal role in connecting our stakeholders, particularly our alumni, with the SOET community. Through their shared insights and accomplishments, our alumni enrich the magazine and provide invaluable inspiration to our current students by highlighting the diverse career trajectories and achievements they have attained.

On behalf of the school, I extend my heartfelt congratulations to the dedicated editorial team of PRISM for their relentless efforts in curating this exceptional edition for the third quarter of 2024. Your unwavering commitment and hard work are deeply appreciated, and I am confident that PRISM will continue to serve as a beacon of knowledge, creativity, and connectivity within our community.

ABOUT SCHOOL: VISION & MISSION

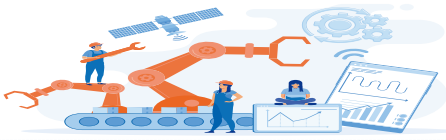
The School of Engineering & Technology at K.R. Mangalam University offers various undergraduate and postgraduate programs. The aim of these programs is to equip the students with knowledge, skills and provide a professional approach in the field of Engineering and Technology, to make their capable in 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 excel in scientific and technical education with integrated teaching-learning, research, and innovation.

Mission:

- Creating a unique and innovative learning experience to enhance quality in the domain of Engineering & Technology.
- Promoting Curricular, Co-curricular and Extracurricular activities that support overall personality development and lifelong learning, emphasizing character building and ethical behaviour.
- Focusing on Employability through research, innovation and entrepreneurial mindset development.
- Enhancing collaborations with National and International organizations and institutions to develop cross-cultural understanding to adapt and thrive in the 21st century.


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.

Purpose of the Advisory Board

The Advisory Board plays a vital role in supporting the School of Engineering & Technology by:

- Providing strategic guidance on engineering education, training, research, professional development, and community service.
- Recommending initiatives to boost public awareness and engagement with the school's programs, services, and resources.
- Acting as a liaison to address industry needs and assess the school's ability to respond effectively to those demands.

Advisory Board: Driving Strategic Excellence at SOET

The Advisory Board is a cornerstone of our academic and developmental strategies, contributing expert guidance across key areas to advance the School of Engineering and Technology's (SOET) mission:

- **Career Pathways:** Assisting in defining clear, robust career trajectories for students.
- **Industry Alignment:** Advising on policies and practices to ensure alignment with industry standards and educational goals.
- **Curriculum Relevance:** Keeping our curriculum responsive to industry demands and workforce expectations.
- **Community Engagement:** Promoting SOET programs and services across the community and the state.
- **Collaborative Agreements:** Facilitating articulation agreements with educational and training institutions.
- **Knowledge Sharing:** Enhancing student and faculty expertise through technology training, project mentoring, workshops, invited talks, and seminars.
- **Industry Connections:** Building relationships for internships, recruitment, and scholarships.
- Research & Innovation: Identifying opportunities for innovative research and fostering impactful partnerships for KRMU.
- **Outreach & Entrepreneurship:** Highlighting outreach needs and strengthening ties with entrepreneurial ventures.
- **Strategic Collaborations:** Establishing links with industries for Memorandums of Understanding, consultancy projects, and more.

The board's insights and efforts ensure that SOET remains a hub for academic excellence and innovation, fostering success for both students and the broader community.

The distinguished members of the SOET Advisory Board are listed below:

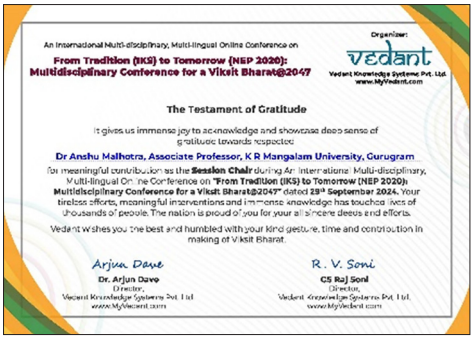
- **Prof. (Dr.) P. S. Grover-** Former-Professor, Dean, Director, and HoD, Delhi University. Former-Director General at GGS Indraprastha University.
- **Prof (Dr.) B. Chandra-** Adjunct Professor, Indian Institute of Technology, Delhi.
- **Dr Sanjeev Kumar Varshney-** Former-Head, International Scientific Cooperation. Department of Science & Technology, Government of India
- **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.
- **Dr. Sharat Kaushik-** Director NGF Group of Colleges.
- **Mr. Subhajit Bhattacharya-** Associate Vice President, Accenture
- **Usha Jagannathan-** Director for AI Products, IEEE, USA
- **Rajinder Chitoria-** Data Scientist and Director at Froyo Technologies (P) Ltd.
- **Mr. Siddhant Verma-** Lead (AI, Data Science and BI team)
- **Dr. Kamal Rawal-** Head of Department & Professor. Center for Computational Biology and Bioinformatics, Amity University, Noida

OUR ACHIEVERS: FACULTY & STUDENTS

Dr. Anshu Malhotra, Associate Professor of the School of Engineering and Technology (SOET), has been honored to chair the session during an AI international Multi-disciplinary Multi lingual online conference on " From Tradion (IKS) to tomorrow (NEP 2020): Multidisciplinary conference for viksit bharat@2047 dated 29th September 2024. Her tireless efforts, meaningful intervention and immense knowledge has touched lives of thousands of people. K. R Mangalam university is proud of her for her sincere deeds and efforts.


An International Multi-disciplinary, Multi-lingual Online Conference on
From Tradition (IKS) to Tomorrow (NEP 2020): Multidisciplinary Conference for a Viksit Bharat@2047
Organizer: vedant Vedant Knowledge Systems Pvt. Ltd. www.MyVedant.com

The Testament of Gratitude

It gives us immense joy to acknowledge and showcase deep sense of gratitude towards respected

Dr Anshu Malhotra, Associate Professor, K R Mangalam University, Gurugram

for meaningful contribution as the Session Chair during An International Multi-disciplinary, Multi-lingual Online Conference on "From Tradition (IKS) to Tomorrow (NEP 2020): Multidisciplinary Conference for a Viksit Bharat@2047" dated 29th September 2024. Your tireless efforts, meaningful interventions and immense knowledge has touched lives of thousands of people. The nation is proud of you for your all sincere deeds and efforts.

Vedant wishes you the best and humbled with your kind gesture, time and contribution in making of Viksit Bharat

Arjun Dave
Dr. Arjun Dave
Director,
Vedant Knowledge Systems Pvt. Ltd.
www.MyVedant.com

R. V. Soni
CS Raj Soni
Director,
Vedant Knowledge Systems Pvt. Ltd.
www.MyVedant.com

Dr. Anshu Malhotra, Associate Professor of the School of Engineering and Technology (SOET), has chaired the session titled "Image processing and computer vision" during 5th Congress on intelligent system bracket CIS 2024 bracket close organised by department of computer science and engineering, christ kengeri campus Bangalore and Liverpool hope university UK CIS 2024 watch sponsored by science and engineering research board department of science and technology Government of India and soft computing research society bracket SRS, New Delhi on 4TH AND 5TH September 2024.


5th Congress on Intelligent Systems (CIS 2024)
September 04-05, 2024
CERTIFICATE OF APPRECIATION

We appreciate the support and cooperation of Dr. Anshu, Associate Professor from K R Mangalam University Gurugram for chairing the session titled TS 13: Image Processing and Computer Vision during 5th Congress on Intelligent Systems (CIS 2024) organized by the Department of Computer Science and Engineering, CHRIST (Deemed to be University), Kengeri Campus, Bangalore, and Liverpool Hope University, U.K. CIS 2024 is sponsored by Science and Engineering Research Board, Department of Science and Technology, Government of India (ANRF) and Soft Computing Research Society (SCRS), New Delhi.

Dr. Mary Anita E.A
Associate Dean SoET
CHRIST (Deemed to be University), Bangalore

Dr. J. C. Bansal
General Secretary, SCRS

Dr. Surabhi Shanker, Co-Convener CSI Student Chapter KRMU Assistant Professor, SOET received the Excellence in Student Engagement through Clubs & Society Award on the occasion of Teacher's day 2024. This recognition is a testament to the power of collaboration, teamwork, and passion that drives her to create enriching experiences for students.


Excellence in Student Engagement through Clubs and Societies 2024
is presented to
Dr. Surabhi Shanker
from CSI Delhi Chapter
on the occasion of Teachers Day Celebrations, 2024

We are thrilled to announce that our students have secured 1st Rank at the prestigious Matrix 2.0 Hackathon during the Tech Fest at GGSIPU-IITM University, Delhi Janakpuri. In addition to claiming the top spot, the team was rewarded with a prize pool of 60k and with lots of exciting goodies, swags, a free hosting domain from one.com, and exclusive internship opportunities from the Internship Cell!

Team members are

- Ansh Johri(Team leader), B. Tech CSE AI & ML

- Saswat kumar Das, B. Tech CSE

- Sachidanand Pathak , B. Tech CSE FSD

- Omm rout, BCA AI & DS

Our incredible team, Space Orbiters, showcased remarkable innovation, teamwork, and problem-solving skills throughout the competition, proving that hard work and dedication lead to success.

This victory is a testament to their relentless effort and creativity. We would also like to extend a heartfelt thank you to our mentors and faculty members for their constant support and encouragement, inspiring our students to reach new heights.

RESEARCH & INNOVATION

Patent Publication (July- September 2024)

1. Mr. Harsh Vardhan - Artificial Intelligence Based Heart Rate Monitoring Device (6387993)- Uk Design ON 24th September 2024

2. Mr. Harsh Vardhan- Multi-Functional Writing Instrument With Integrated Laser, Ai, And Bluetooth Connectivity For Enhanced Presentation And Interaction- Indian Patent on 20th September 2024

3. Dr. Preeti Rathi - Search Engine Optimization For Category Specific Search Results (424292-001)- Indian Patent on 11th September 2024

4. Ms. Lucky Verma- Optimizing Supply Chain Management And Enhancing Brain Cancer Diagnosis Using Integrated Blockchain, Iot, And Machine Learning Systems With Mri Imaging (202411060642)- Indian Patent on 30th August 2024

5. Mr. Rupesh Kumar Tipu - Real-Time Interactive Water Quality Prediction System Utilizing Ensemble Machine Learning And Gui Visualization (202411057196)- Indian Patent on 16th August 2024

6. Dr. Rakhi Dua ,Dr. Appurva Jain,Mr. Rahul Singh,Dr. Imran Siraj- Ai Based Hybrid Vehicle Charging Station (6384788)- Uk Patent on 16th August 2024

7. Ms. Ruchika Bhakar ,Mr. Harsh Vardhan,Mr. Rahul Singh- Adaptive Security Protocol For Smart Home Iot Devices Using Cloud-Fog Architectures (202411055827)- Indian Patent on 9th August 2024

8. Mr. Harsh Vardhan,Mr. Rahul Singh,Dr. Imran Siraj- Intelligent Fabrication Methods For Polymer/Chalcogenide Composite Optical Limiting Films Using Machine Learning (202411055832)- Indian Patent on 9th August 2024

9. Mr. Harsh Vardhan- Dynamic Allocation System For Integrated Cloud-Fog Computing In Smart Homes (202411053617)- Indian Patent on 26th July 2024

10. Ms. Ruchika Bhakar ,Mr. Harsh Vardhan,Mr. Rahul Singh,Dr. Imran Siraj- Innovative Application Of Ai Techniques In Enhancing The Efficiency And Effectiveness Of Robotic Path Planning (202411049649)- Indian Patent on 12th July 2024

11. Dr. Rakhi Dua ,Dr. Anumeha Mathur ,Dr. Devkanya Gupta,Mr. Harsh Vardhan,Mr. Rahul Singh,Ms. Sukanya Chaudhary- Artificial Intelligence Driven Automated Marketing Campaign For Small And Medium Enterprise (Smes) (202411047462)- Indian Patent on 5th July 2024

12. Dr. Surabhi Shanker- Decentralized Intrusion Detection Framework Using Ethereum Smart Contracts: Didf (202411048251 A)- Indian Patent on 5th July 2024

13. Dr. Owais Ahmad Shah- Al-Assisted Personalized Learning Device (414831-001)- Awarded Patent on 5th July 2024

JOURNAL RESEARCH PAPER PUBLICATION
(JULY- SEPTEMBER 2024)

1. Prof. (Dr.) Aman Jatain – Optimizing Software Defect Detection using advanced Feature Selection, Ensemble Learning, and Class Imbalance Solutions in Library Progress International,from BPAS Journals Publications-on 22nd September 2024

2. Dr. Owais Ahmad Shah- Adaptive Control Strategies for Enhanced Integration of Solar Power in Smart Grids Using Reinforcement Learning in Energy Storage and Saving,from ScienceDirect Elsevier -on 19th September 2024

3. Ms. Solanki Gupta- Tracing scientific and technological development in genetically modified crops in Transgenic Research,from Springer Nature-on 18th September 2024

4. Dr. Surendra Kumar Yadav- A Critical Review on Materials in Additive Manufacturing Technologies in Journal of The Institution of Engineers (India): Series D,from Springer-on 17th September 2024

5. Dr. Prabhakar Bhandari - Numerical Investigation of Increasing-Decreasing Stepped - Micro Pin Fin Heat Sink Having Various Arrangements in Archives of Thermodynamics,from The Committee of Thermodynamics and Combustion of the Polish Academy of Sciences and The Institute of Fluid-Flow Machinery Polish Academy of Sciences-on 13th September 2024

6. Dr. Prabhakar Bhandari - Tasar silk fiber waste reinforced polylactic acid composite: Physical, mechanical, and sliding wear characterization in Results in Engineering,from Elsevier-on 13th September 2024

7. Dr. Pankaj Agarwal - Climate Change Prediction in Sustainable Healthcare Systems for Biodiverse Ecosystem Based on Satellite Data Modelling in Remote Sensing in Earth Systems Sciences,from Springer Nature-on 31st August 2024

8. Dr. Kaushal Kumar- A Research on Fresh and Hardened Concrete Residences with Partial Replacement of Recycled Coarse Aggregates Obtained from Demolition and Construction Waste in International Journal of Experimental Research and Review,from International Academic Publishing House (IAPH)-on 30th August 2024

9. Dr. Jyoti Gupta - A multi-model evaluation of Enhanced Tunicate Swarm Optimization for parameter identification in Energy Reports,from Elsevier-on 13th August 2024

10. Mr. Rupesh Kumar Tipu ,Ms. Suman ,Dr. Vandna Batra- Predicting compressive strength of concrete with iron waste: a BPNN approach in Asian Journal of Civil Engineering,from Springer Nature-on 13th July 2024

11. Dr. Owais Ahmad Shah- Multi-Objective Particle Swarm Optimization for Enhancing Chiller Plant Efficiency and Energy Savings in International Journal of Robotics and Control Systems,from Association for Scientific Computing Electronics and Engineering (ASCEE)-on 30th July 2024

12. Dr. Jyoti Gupta - Grey wolf-based heuristic methods for accurate parameter extraction to optimize the performance of PV modules in IET Renewable Power Generation,from Wiley-on 23rd July 2024

13. Mr. Rupesh Kumar Tipu - Numerical and machine learning models for concentrically and eccentrically loaded CFST columns confined with FRP wraps in Structural Concrete,from Wiley-on 22nd July 2024

14. Dr. Jyoti Gupta - A robust multi-objective optimization algorithm for accurate parameter estimation for solar cell models in Soft Computing,from springer-on 19th July 2024

15. Mr. Ashwani Kumar,Dr. Meenu,Dr. Swati,Ms. Jyoti Kataria,Ms. Gargi Singh- Assessing the Environmental Impact of Artificial Intelligence in Achieving Sustainable Development Goals in African Journal of Biological Sciences (South Africa),from African Science Publisher-on 18th July 2024

16. Dr. Surendra Kumar Yadav- Influence of Î±-MnO 2 and Curing Temperature on Density and Microhardness of Epoxy Nanocomposites in Journal of Nanotechnology,from Hindawi Limited-on 18th July 2024

17. Dr. Shweta Bansal- A Comprehensive Review of Real-Time Vehicle Tracking for Smart Navigation Systems in Journal of Intelligent Systems and Internet of Things,from American Scientific Publishing Group (ASPG)-on 14th July 2024

18. Dr. Prabhakar Bhandari ,Dr. Diwakar Padalia- Comparative Thermo-hydraulic Analysis of Periodic Stepped Open Micro Pin-fin Heat Sink in Archives of Thermodynamics,from The Committee of Thermodynamics and Combustion of the Polish Academy of Sciences and The Institute of Fluid-Flow Machinery Polish Academy of Sciences-on 10th July 2024

19. Dr. Prabhakar Bhandari ,Dr. Diwakar Padalia- Tuning the structural, optical, and dielectric properties of europium-doped barium titanate ceramics in Journal of Materials Science: Materials in Electronics,from Springer Nature-on 9th July 2024

20. Dr. Jyoti Gupta - Mathematical Modeling for Solar Cell Optimization: Evaluating Sustainability with Different Diode Configurations in IEEE Access,from IEEE-on 8th July 2024

21. Dr. Jyoti Gupta - Improving photovoltaic cell parameter calculations through a puffer fish inspired optimization technique in Heliyon,from Cell press-on 2nd July 2024

22. Dr. Owais Ahmad Shah- Seasonal Electrical Load Forecasting Using Machine Learning Techniques and Meteorological Variables in International Journal of Robotics and Control Systems,from Association for Scientific Computing Electronics and Engineering (ASCEE)-on 2nd July 2024

BOOK CHAPTER PUBLICATION (JULY- SEPTEMBER 2024)

1. Dr. Meenu, Dr. Swati- " Application of Machine Learning in Cybersecurity: A Technological Perceptive", Sustainable IoT and Data Analytics Enabled Machine Learning Techniques and Applications- 978-981-97-5364-2

2. Dr. Meenu,Dr. Swati- "Role of Artificial Intelligence in Design and Implementation of Healthcare Web-Based Application â€œCarefree Bharatâ€ Focusing Sustainable Development", Sustainable IoT and Data Analytics Enabled Machine Learning Techniques and Applications- 978-981-97-5365-9

3. Dr. Rakhi Dua- " Revolution in surgical robots for medical surgeries in today's era: A Review" -978-91-7308-089-7

4. Dr. Rakhi Dua- "Revolution in Smart Material Technology and their Applications in today's era:A Review", Advanced trends in Multidisciplinary Research- 978-91-7308-089-7

5. Dr. Swati- "Sustainable Enhancement of Delhi Indian Restaurant Choices Through Machine Learning in Social Network-Driven Recommendations", Sustainable Development through Machine

Learning, AI and IoT Second International Conference, ICSD 2024- 978-3-031-71729-1

6. Dr. Meenu- "Extraction of Real-Time Data of Breast Cancer Patients and Implementation with ML Techniques", Artificial Intelligence Revolutionizing Cancer Care Precision Diagnosis and Patient-Centric Healthcare- 9781032833064
7. Dr. Meenu- "ML Techniques Implementation for Heart Prediction in Healthcare"', Machine Learning in Multimedia Unlocking the Power of Visual and Auditory Intelligence- 9781032761480
8. Dr. Meenu, Dr. Swati- "The Need for XAI Challenges and Its Applications", Reshaping Intelligent Business and Industry: Convergence of AI and IoT at the Cutting Edge- 97811199048

BOOK PUBLICATION (JULY- SEPTEMBER 2024)

1. Dr. Jyoti Gupta- "Application of hybrid chaotic particle swarm optimization and slime mould algorithm to optimally estimate the parameter of fuel cell and solar PV system", Elsevier: International Journal of Hydrogen Energy- 1879-3487
2. Dr. Rakhi Dua- "Analysis of Log Periodic Antenna using HFSS", Lambert Academic Publishing, - 9786207810352
3. Dr. Surabhi Shanker – "Information Retrieval", Lambert Academic Publishing - 978-620-7-84225-4
4. Dr. Meenu,Dr. Swati- "Building Education Platform : Study Stash", LAP Lambert Academic Publishing- 978-620-7-63988-5
5. Dr. Surabhi Shanker-" Fundamentals of Computers Part I", LAP Lambert Academic Publishing- 978-620-7-81045-1
6. Dr. Meenu,Dr. Swati- "Load Balancing of Cloud Resources for Real Time Task Management using Deep Laerning"', LAP Lambert Academic Publishing- 978-620-7-80950-9

WELCOME FRESHMEN: INDUCTION PROGRAM- DEEKSHARMABH

The "Welcome of Students & Familiarisation to School Coordinators" session was designed to introduce new students to their respective academic leaders, including Deans, Program coordinator and School Coordinators. During this session, students were officially welcomed to the university and familiarized with the academic structure and key personnel within their school or department.

It is a five-day event to welcome and interact with new batch. Each day includes various activities during 5 sessions on each day.

Few activities are listed below:

- Meet and Greet session with Freshmen of 2024 Batch
- Familiarize KRMU MOODLE LMS, Serosoft to freshmen
- Ice Breaking Activities: TECH QUIZ Activity, Cultural Showcase and Guess the Brand Logo, The Two Truths and a Lie activity, The Dumb Charades event, Talent Hunt- The Picture Storytelling activity, The Innovative Startup Ideas session, Ad Mad Show
- Career Path: By Industry Experts was successfully conducted for the students of SOET in collaboration with IBM and ImagineXP.
- Training programme on Code of Conduct for New Students & Training Programme on Professional Ethics for New students
- Introduction to Student Grievance, Discipline, Anti-Ragging and Internal Complaints Committee (ICC), Carrier Development Centre, Student Welfare, International Relations
- The Gender and Sensitization session, Yoga and Meditation, Physical and Mental Health session, conducted by ISKCON
- Alumni Interaction

Alumni' interaction Session during DEEKSHARAMBH 2024

Gaining insights into essential campus resources and support system

Group Interaction During 'Deeksharambh' Programme for Newcomers"

Seniors Interaction with Freshmen

CLUBS & CENTERS

The Computer Society of India (CSI)

The Computer Society of India (CSI) Student Chapter, in collaboration with the Centre of Excellence-AI at K R Mangalam University, organized an expert talk on Network Security Assurance on 24th September 2024.

Ms. Kamini Malhotra, Head of Network Security Assurance at DRDO, led the session with 170 students. She covered essential topics such as:

- **IoT Security:** Safeguarding connected devices from vulnerabilities.
- **Blockchain Technology:** Using blockchain for secure transactions.
- **Network Security Protocols:** Protecting sensitive data during transmission.
- **Cybersecurity Threats:** Strategies to prevent malware, phishing, and ransomware attacks.

The event provided valuable insights into network security and its importance in the modern digital landscape. Students found the session informative and recommended similar events in the future.

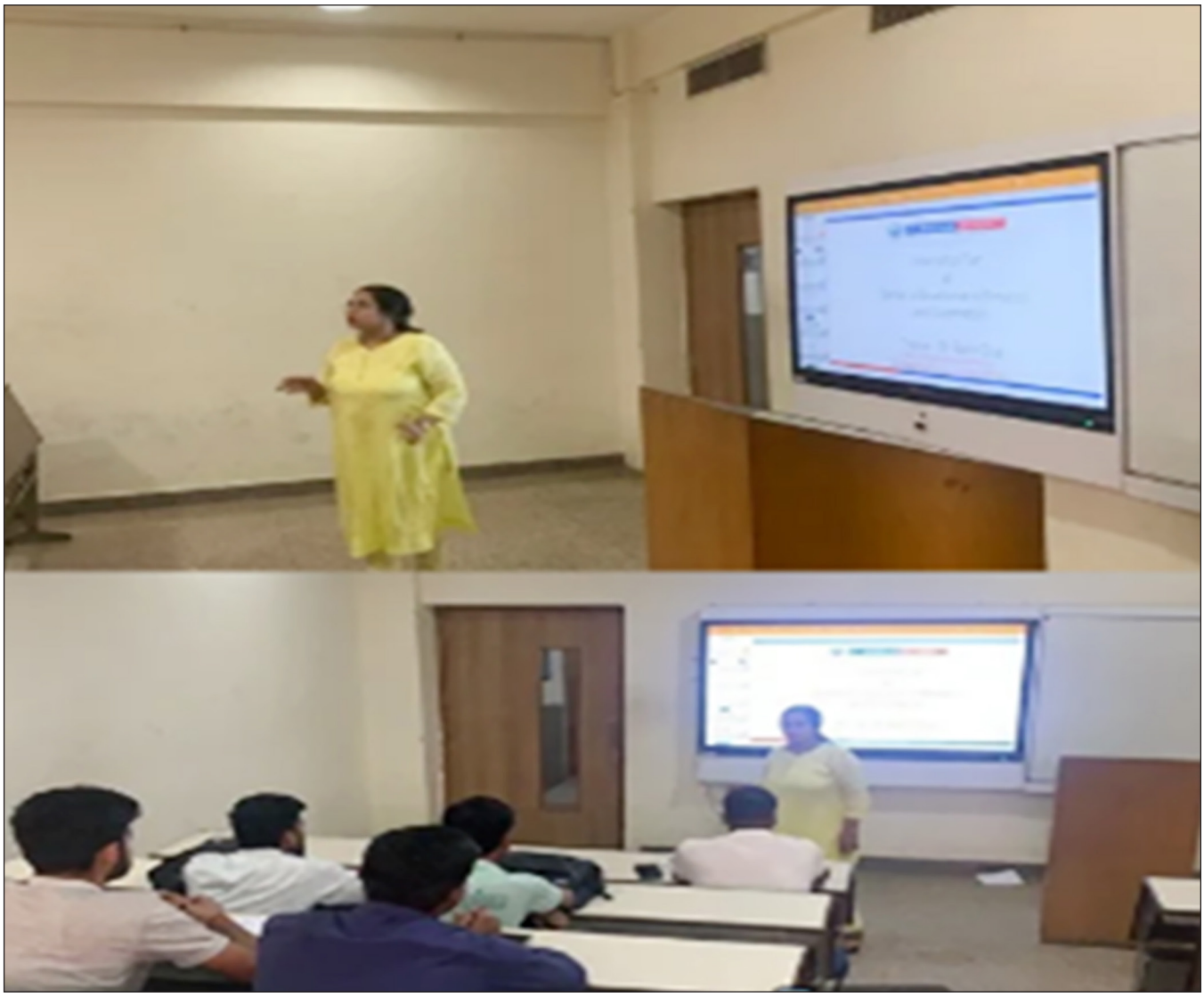
Expert talk on Network Security Assurance

CSI STUDENT CHAPTER IN COLLABORATION WITH CENTRE OF EXCELLENCE-AI

CSI Student Chapter in collaboration with Centre of Excellence-AI under Student Welfare has conducted an event "How to choose your goal?" on 23rd August 2024. The event was organized with the motive to identify achievable, specific goals that align with student's core values. It has been organized with an objective to empower students to define, prioritize, and achieve meaningful personal goals. The resource person of the event was Ms. Nishtha S. K. Sharma (Motivational Speaker, soft skill trainer, Founder of "The Greatest Speaker"). The whole session was quite interactive and full of activities. The resource person tried to make the students understand that we should have clear vision and goal. During the session she proved that if we have a clearly defined goal, it will be helpful to achieve it. The event empower participants to define, prioritize, and achieve meaningful personal goals. A total 110 students were attended the session in supervision of faculty coordinators Dr. Surabhi and Dr. Preeti Rathi.

Glimpse from event: "How to choose your goal?"

CENTER OF EXCELLENCE: ROBOTICS & AUTOMATION



Centre of Electronics in Robotics and Automation organizing "Summer Internship".

The summer internship at the Centre of Excellence in Robotics and Automation (CoE-RA) at K.R. Mangalam University provided a unique opportunity to engage with advanced technologies in robotics and automation. The internship, spanning from 10th July 2024 to 10th August 2024, was designed to offer hands-on experience and practical insights into the field, aligning with my academic background and career aspirations in engineering and robotics.

The handson and Project based learning session was delivered by Dr. Imran who had given introduction to basics of Robotics and Automation to students. He told the students about the Kinematics and Dynamics of Robotics , Dr. Rakhi Dua who had given introduction to the basics of microprocessor and microcontrollers and their implementation in different applications. She also introduced students about coding by means of Ardino, Dr. Puja Acharya who had introduced students with basics of Firebird. She told them about the different components of Firebird and introduced them different projects which can done by means of firebird and Dr. Owais who introduced students with technical paper writing and basics of coding.

AUTOKRITI 14.0 WORKSHOP AT NIT KURUKSHETRA

The School of Engineering and Technology is proud to announce the outstanding participation of K.R. Mangalam University at the prestigious Autokriti 14.0 workshop organized from 27 September to 29th September 2024 by NIT Kurukshetra. A total of 93 students from the Center of Excellence_Artificial Intelligence (COE-AI) and 110 students from the School of Engineering and Technology (SOET) actively engaged in this significant event focused on future technologies and innovation. In recognition of their dedication, Vaibhav, a student from B.Tech CSE, was awarded the prestigious Best Student Award in the IOT(Internet of Things) domain. His achievement reflects the technical prowess and hard work demonstrated throughout the workshop. In addition, six students from K.R. Mangalam University were recognized as Campus Ambassadors for Autokriti 14.0, highlighting their leadership and involvement in this initiative. We are also pleased to share that the Center of Excellence in AI received recognition for its active and meaningful participation. This acknowledgment underscores the university's commitment to fostering talent and innovation in the rapidly evolving field of Artificial Intelligence as well as in latest trends in technology. We extend our heartiest congratulations to all the awardees and participants for making the university proud on this remarkable platform.

Autokriti 14.0 workshop organized from 27 September to 29th September 2024 by NIT Kurukshetra.

Autokriti 14.0 workshop organized from 27 September to 29th September 2024 by NIT Kurukshetra.

EVENTS CORNER

Web Development Workshop

The "Hackathon Awareness and Web Application Development Workshop" was successfully conducted on 26th September 2024. The workshop aimed to provide participants with hands-on experience in building web applications using HTML, CSS, JavaScript, and GitHub, focusing on creating dynamic, hackathon-related projects by integrating external APIs. The event witnessed enthusiastic participation from more than 150 students, including beginners and intermediate developers interested in web development and hackathon preparation.

The workshop was led by Mr. Om Raut, a B.Tech 3rd-year student, who demonstrated exemplary teaching and mentoring skills throughout the sessions. Participants engaged in interactive learning and project building activities, gaining a deep understanding of core web development skills and the workflow of creating and deploying web applications.

The workshop was divided into two main sessions:

1. Morning Session: Web Development Foundations

2. Afternoon Session: GitHub & Deployment

By the end of the workshop, participants were able to Understand the Basics of Web Development, Integrate External APIs, Utilize Git for Version Control, Deploy Web Applications on GitHub Pages, Prepare for Hackathons. The workshop successfully achieved its goals by equipping participants with core web development skills and introducing them to hackathon opportunities. Such workshops not only enhance technical

proficiency but also foster a collaborative and innovative learning environment among students. The School of Engineering & Technology remains committed to providing quality learning opportunities and practical exposure to its students through such engaging workshops and events.

Session conducted by Om Raut

Code of Conduct for Students

The School of Engineering and Technology, K. R. Mangalam University, organized the event "Code of Conduct for Students of SOET" with the primary objective of disseminating information about the code of conduct to be followed within the University on 29th August 2024. This event aimed to ensure that Students are fully aware of their rights and responsibilities and to promote a positive and inclusive learning environment. The event commenced with a warm welcome to all attendees. A detailed presentation of the code of conduct was delivered by Dr. Vineet Dahiya. The presentation highlighted the key roles and responsibilities, expectations, and the importance of adhering to the code. The event included a comprehensive overview of the procedures for reporting violations of the code of conduct. Students of SOET were informed about the confidential reporting mechanisms available and the Code of conduct to be adhered by the students in university.

Following the presentation, an interactive question and answer session allowed attendees to seek clarification on specific aspects of the code of conduct. This session encouraged open dialogue and addressed concerns from Students of SOET.

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Outcome of the event on the "Code of Conduct for Students of SOET" achieved several key outcomes related to Enhanced Awareness, Improved Compliance, Open Dialogue, Clarity on Reporting Procedures

The event was successful in achieving its objectives of informing and educating Students of SOET about the code of conduct to be followed in the University. It fostered a sense of responsibility and community within the University and emphasized the importance of maintaining a respectful and inclusive learning environment.

Professional Ethics for Students

The School of Engineering and Technology (SOET) organized an internal session on Professional Ethics for students on 29th August 2024. This session was conducted by the faculty of SOET, aimed at introducing students to the fundamental principles of ethics that are essential in professional and academic life. The event focused on enhancing students' understanding of ethical responsibilities in their respective fields of study, particularly in engineering and technology. The primary goal of the session was to create awareness among students about the significance of professional ethics. The specific objectives were:

- Understanding Professional Ethics.
- Ethical Decision-Making.
- Importance of Code of Conduct.
- Ethics in Technology and Engineering.

By the end of the session, students gained valuable insights related to Ethics as an Integral Part of Professional Life, Importance of Codes of Conduct, Navigating Ethical Challenges, Ethics in Technology Development to educate students about the importance of ethics in both their academic and future professional lives.

Professional Ethics for Teachers

Dr. Shweta Bansal conducting an engaging session on 'Professional Ethics for Teachers'

On Saturday, 28th September 2024, the School of Engineering and Technology at K.R. Mangalam University organized a session on "Professional Ethics for Teachers". This offline event, coordinated by Dr. Shweta A Bansal, was specifically designed for 25 faculty members of the university. The objective was to enhance the understanding and implementation of ethical standards in teaching practices, ensuring the educators' professional growth and alignment with institutional values. The methodology included interactive discussions, case studies, and role-playing activities, encouraging participants to explore ethical dilemmas and best practices. The content covered topics such as integrity in academic work, the teacher-student relationship, institutional responsibility, and maintaining fairness and equity in assessments. The outcome of the session was a deeper awareness among faculty members regarding ethical behavior and its impact on fostering a positive academic environment. Faculty participants gained valuable insights into handling ethical challenges and were equipped with strategies to maintain professionalism in their teaching. In conclusion, the event successfully instilled a heightened sense of ethical responsibility among the attendees. The further scope includes conducting more in-depth workshops on specific ethical issues and expanding the initiative to include students, reinforcing a culture of integrity at K.R. Mangalam University.

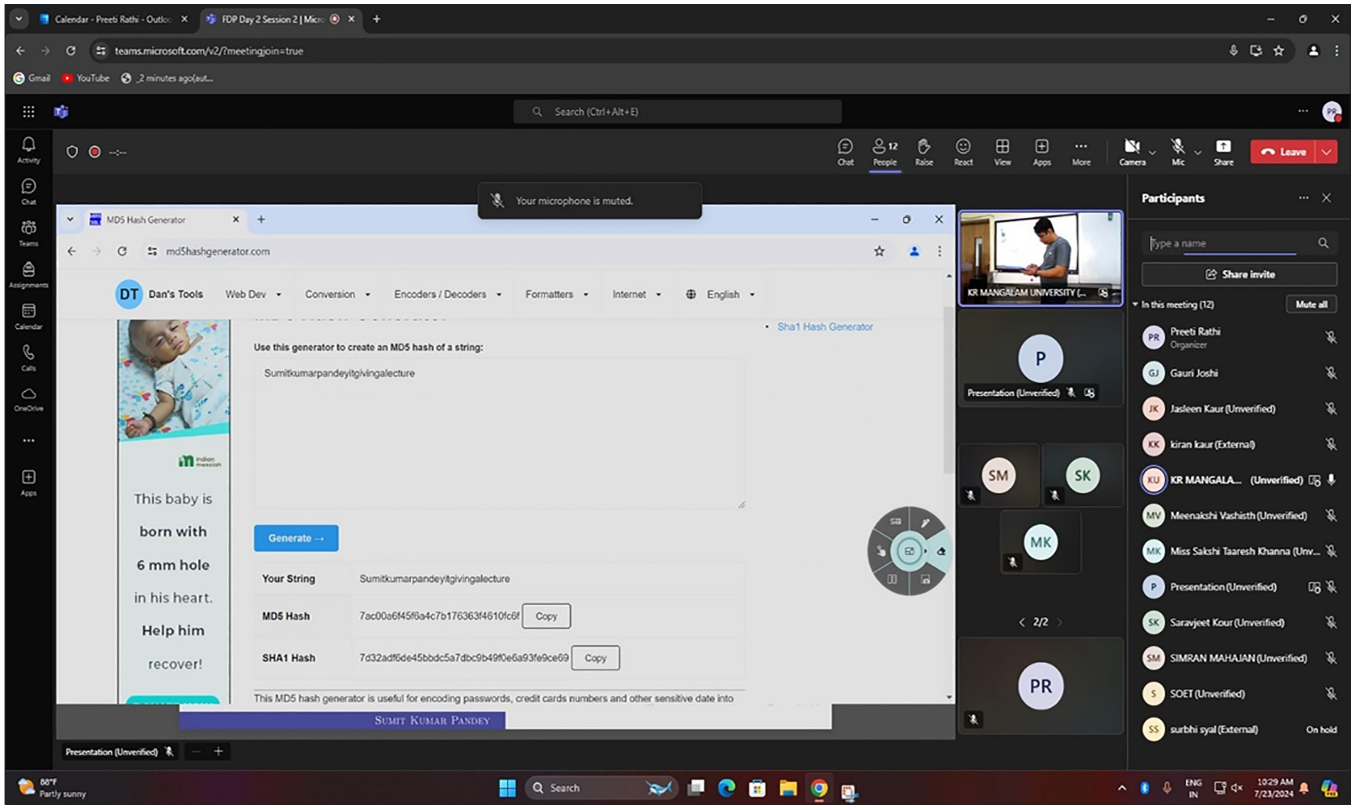
Faculty Developoment Program on Blockchain and Cyber Security

The Five days Faculty development was organized by School of Engineering and Technology in hybrid mode at K.R. Mangalam University. The objectives were:

- To provide a comprehensive understanding of blockchain technology and its applications.
- To explore contemporary issues and solutions in cybersecurity.
- To facilitate practical learning through hands-on sessions and case studies.

There were 15 external participants from different colleges and institutes and around 12 participants from K.R. Mangalam University.

Dr Sumit Kumar Pandey gave basic introduction to Blockchain to the online/offline participants along with cryptographic hash functions, MD5 Hash function, Smart Contracts, regulatory landscape of blockchain and cybersecurity, identity management were explained



The expert delivering lecture on Hash Functions

TECHNICAL ARTICLES

CLIMATE CHANGE PREDICTION IN SUSTAINABLE HEALTHCARE FOR BIODIVERSITY ECOSYSTEM BASED ON SATELLITE DATA MODELLING AS TITLE

Abstract: Every area of human life is being impacted by climate change more and more. According to recent studies, there is a strong association between temperature and human health. It is predicted that by 2100, fluctuations in temperature will cause 73 deaths for every 100,000 people worldwide. Algorithms for machine learning (ML) have made significant progress, leading to innovations in other fields of study and, most recently, being proposed as a tool to support climate analysis. In order to mitigate these risks, a proximity environmental feature-based tree health assessment (PTA) methodology is suggested, which offers recommendations for early warning systems for possible poor tree health. Tree health is determined and assessed in PTA development using proximity environmental characteristics (PEFs). This research proposes novel technique in climate change-based health data analysis using satellite data analysis for biodiverse ecosystem in sustainable modelling. Here, the input is collected as regional climate change data and analysed for feature selection with extraction. This data has selection carried out using kernel adversarial Gaussian linear regression model; the selected features show the abnormality in health issues. Then, the selected features have been extracted using convolutional U-net extreme attention neural network. The extracted features show healthcare data analysis based on climate changes. The simulation analysis is carried out for various climate change-based healthcare analysis dataset in terms of detection accuracy, normalised error, precision, F-measure, and recall. The suggested method produced 96% detection accuracy, 56% normalised error, 90% precision, 95% recall, and 92% F-measure.

Pankaj Agarwal

Dean-
Professor, School of Engineering and Technology

OPTIMIZING SOFTWARE DEFECT DETECTION USING ADVANCED FEATURE SELECTION, ENSEMBLE LEARNING, AND CLASS IMBALANCE SOLUTIONS

Abstract: Software Anamoly Prediction (SBP) is a vital process in software development,designed to identify potential software defects early in the development lifecycle. Early detection not only enhances software quality and performance but also significantly reduces development costs. The advent of Machine Learning (ML) algorithms has markedly improved the accuracy of bug prediction, leading to more efficient resource allocation and cost management. However, traditional ML models often struggle with managing non-linear relationships, addressing data imbalances, ensuring adequate feature representation, and handling complex scenarios, resulting in sub-optimal performance.This research proposes a novel approach that optimizes the selection and refinement of classifiers, improving the accuracy and reliability of SAP. A key focus of this study is on addressing class imbalance, a crucial factor that significantly impacts the accuracy of software defect detection, as evidenced by performance metrics. Moreover, feature selection, which involves removing irrelevant features from a dataset, is also identified as essential for building more effective learning models. Recent research have also emphasized the importance of tuning of model parameters in boosting the performance of individual classifiers in SAP tasks. Additionally, Ensemble Learning (EL) techniques have demonstrated superior accuracy and effectiveness when applied to SAP datasets.This research introduces an innovative model that integrates Ensemble Learning with hyperparameter tuning, alongside class imbalance handling and careful feature selection, to predict software bugs more effectively. The study investigates whether Ensemble Learning models outperform individual models in software bug prediction and if integrating hyperparameter optimization, class imbalance handling, and feature selection further boosts their accuracy.The findings underscore the key role of these integrated approaches in improving the predictive power of SAP models . The proposed model, tested using Python software, shows a substantial improvement in accuracy compared to single classifier models on the PROMISE repository's PC1 and CM1 data sets, highlighting the potential of these advanced methods in advancing software bug prediction. KEYWORD: bug, ensemble, defect prediction, class imbalance, hyperparameter tuning.

Prof. Dr. Aman Jatain

School of Engineering & Technology

PLACEMENTS & INTERNSHIPS

It is pride to share placement of our 10 students in duration of July- September 2024 in companies for their expertise.

Placement Record (July- September 2024)

S.No	Student Name	Program	Name of the organization
1	SAGAR VERMA	MCA	Invision Acres
2	SUBHOJIT MUKHOPADHYAY	B.Tech CSE	Orient Private Technology
3	AYUSH KUMAR JHA	MCA	G A Digital Web World Private Limited
4	PRIYANSHU BHARDWAJ	MCA	FBS Healthcare
5	MADHAV GUPTA	B.Tech ME	Mercedez Benz
6	Billey	B Tech	Cvent
7	Mayank Berry	MCA	Housy Point
8	Nitin	B.Tech CSE	Techknow Minds Private Limited Perk Minds Private Limited
9	Harsh Vatsal	B.Tech CSE	Perk Minds Private limited
10	Raj Kumar		Perk Minds Private limited

SOET is proud to announce that 65 students were selected in internship during period of July- September 2024 in various reputed companies of student's interest.

Internship Record (July- September 2024)

S.No	Student Name	Program	Name of the organization
1	Anil Panth	B.Tech CSE	LeadingDotsSolution
2	Dimple Tanwar	MCA	Service farm solutions pvt ltd
3	Prachi Swarnim	B.Tech CSE (AI & ML)	Digantara Research and Technologies Pvt Ltd
4	Harsh Singh	B.Tech CSE	CSIR - NPL
5	AKSHAY DIXIT	MCA	CodeAlpha
6	Niti Rani	MCA	Lagozon edutech Pvt Ltd

7	Mayank Berry	MCA	Pro Housypoint tech solutions pvt Ltd.
8	Rupali Patra	MCA	INTERNPE
9	Ansh Srivastava	B.Tech CSE (AI & ML)	UNO Minda
10	Shagun yadav	B.Tech CSE	CSIR - npl
11	Vanshika Saxena	B.Tech CSE (AI & ML)	GMDA (Gurugram Metropolitan Development Authority)
12	Shruti Gupta	B.Tech CSE (AI & ML)	Gaotek Inc
13	Shiv Kumar Yadav	MCA	YBI Foundation
14	Rahul Tanwar	MCA	Binary semantics
15	Abhinav	MCA	google ux design
16	Gunjan	B.Tech CSE	CSIR
17	Ankit Nair	B.Tech CSE	F13 Technologies Pvt Ltd
18	Sweta Rawat	B.Tech CSE	ONGC
19	Jaanya Raheja	BCA (AI & DS)	Bobble AI
20	Sujal bajaj	BCA (AI & DS)	Master's union
21	Ashish Sachdeva	MCA	FictiveBox
28	SACHIN	B.Tech CSE	Invest4Edu
29	SANJANA KUMARI	B.Tech CSE	Jio Reliance
30	SHIVAM GAUTAM	B.Tech CSE	Jio Reliance
31	MADHAV GUPTA	B.Tech ME	Pioneer Infotech P Ltd

32	PRIYANSHU DAHIYA	MCA	Target Technology
33	SONU	MCA	Prism Infoway
34	ROHIT	MCA	Inclination IT Innovation Pvt Ltd
35	HITESH	MCA	Inclination IT Innovation Pvt Ltd
36	MAYANK KUMAR	B.Tech CSE (Sp Inv, AI & ML)	CSIR-NPL
37	SHAGUN YADAV	B.Tech CSE	CSIR-NPL
38	RICHA SINGH	B.Tech ME	Sandhar Group
39	LAKSHAY KUMAR SUHAG	B.Tech ME	Sandhar Group
40	GUNJAN	B.Tech CSE	CSIR-NPL
41	NAVNEET YADAV	MCA	Xpert Coders
42	ANIL PANTH	B.Tech CSE	Leadingdois Solutions Pvt. Ltd
43	N RIA	B.Tech CSE (Sp Inv, AI & ML)	Niti Aayog
44	DIMPLE TANWAR	MCA	Service farm solutions
45	ANKIT NAIR	B.Tech CSE	F13 Technologies
46	GYANDEEP KUMAR	MCA	JSpiders
47	MRINAL KASHYAP	MCA	Groom town pvt. ltd.
48	Ansh Srivastava	B. Tech CSE	UNO Minda
49	Ishaan Gulati	BCA (Sp AI & DS)	Escorts Limited Faridabad

50	Harsh Singh	B. Tech CSE	CSIR NPL
51	Chinmaya Kapoor	BCA (Sp AI & DS)	Bobble AI Technologies
52	Manu Sharma	B. Tech CSE AI & ML	Policy Bazar
54	Ayush Kumar Singh	BCA (Sp AI & DS)	HODM Pvt Ltd
55	Aditya	MCA	Concentrix
56	Ayush Sharma	B. Tech CSE AI & ML	Reach Cure
57	Sujal	BCA (Sp AI & DS)	Masters Union
58	Aditya Mathur	MCA	Concentrix - Webhelp India Pvt Ltd
59	Mrinal Kashyap	MCA	Groom Town private limited
60	Ashish	MCA	Fivtivebox
61	Piyanshu Bhardwaj	MCA	FBS Healthcare
62	Sujal	BCA (Sp AI & DS)	Masters Union
63	Gyandeep Kumar	MCA	JSpiders
64	Abhishek Saklani	B Tech EEE	Weapons and electronics Systems Engineering Establishment
65	Shweta Rawat	B Tech CSE	Weapons and electronics Systems Engineering Establishment

OUR ALUMNI

Lokesh, MCA Student, Class of 2022- 2024

Being a part of the MCA program at K.R. Mangalam University has been an incredible journey for me, both personally and professionally. The university feels like a second home, thanks to its amazing infrastructure and the supportive environment it offers. The faculty here are truly exceptional—more like mentors who are always ready to guide you, answer your questions, and push you to do your best. Their constant support has made a huge difference in my learning experience. I have spent countless hours in the library, exploring books, journals, and digital resources. It's been my favourite spot for digging deep into research and staying up-to-date with the latest in tech.

The computer labs deserve a special mention too! They're equipped with all the modern systems and software I've needed to build and polish my technical skills. Getting hands-on experience in such a well-equipped setup has been a game-changer for me. What I love most is how KRMU doesn't just focus on academics. The sports facilities have been a great way for me to unwind, stay fit, and learn teamwork and resilience. Balancing studies with sports has helped me grow as a person in so many ways.

KRMU has truly been a stepping stone for me, helping me gain confidence and skills to take on the future. And PRISM is such a fantastic way to capture and celebrate all these experiences. I'm so proud to be part of this vibrant, supportive, and inspiring community!

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