MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA
Deemed University
(Declared under Distinct Category by Ministry of Education, Government of India)
NAAC ACCREDITED WITH A++ GRADE

ELECTRIKA

ELECTRICAL ENGINEERING DEPARTMENT

(NBA ACCREDITED)

ANNUAL MAGAZINE 2023-24

VOLUME 2

Dean Faculty of Engineering & Technology message

It is with immense pleasure that we present the 2024 edition of ELECTRIKA, the annual magazine of the Department of Electrical Engineering at MITS. This publication reflects the department's unwavering commitment to fostering academic excellence, technological innovation, and creative growth among both faculty and students.

The pages of ELECTRIKA are a testament to the department's accomplishments over the past year, showcasing an impressive array of research endeavors, innovative projects, and thought-provoking articles. Every piece featured here highlights the passion, dedication, and resilience that define the Electrical Engineering community.

I would like to extend my heartfelt appreciation to the editorial team and all contributors whose combined efforts have culminated in this comprehensive and inspiring publication. May Electrika continue to serve as a platform for knowledge sharing, celebrating achievements, and motivating the next generation to pursue excellence in every endeavor.

With warm regards,
:- Dr. Manjaree Pandit
Dean, Faculty of Engineering and Technology
Madhav Institute of Technology & Science (MITS-DU), Gwalior

H.O.D Message

It is my honor to present the annual magazine ELECTRIKA for the session 2023-2024.

The Electrical Engineering Department at MITS-DU has continued to excel in academic, research, and extracurricular activities, driven by the hard work and dedication of our students and faculty.

Throughout the year, our students have achieved remarkable success in various competitions, conferences, and research projects, reflecting their technical expertise and leadership qualities. The faculty has been an unwavering source of support, creating an environment that nurtures innovation and fosters holistic growth.

This magazine encapsulates the achievements and efforts of everyone involved in making this year successful. I extend my sincere congratulations to all our students and faculty for their commitment to excellence.

Together, we will continue to innovate and contribute to the field of electrical engineering, striving for greater success in the future.

:- Dr. Sulochana Wadhwani
Head and Prof (Electrical Engineering)

Coordinator Message

It is with immense pleasure and pride that we present to you the 2024 edition of Electrika, the annual magazine of the Electrical Engineering Department. This magazine serves as a testament to the creativity, innovation, and dedication of our students and faculty, capturing the essence of our journey throughout the year.

Electrika is more than just a publication; it is a platform to showcase the achievements, ideas, and technical brilliance of our department. From insightful articles on cutting-edge technologies to inspiring personal stories and memorable glimpses of department events, each page reflects the vibrant spirit of our community.

I extend my heartfelt gratitude to all the contributors, editorial team members, and supporters whose tireless efforts and commitment have made this edition possible. May Electrika continue to inspire curiosity, celebrate achievements, and serve as a beacon of excellence for years to come.

:- Dr. Vishal Chaudhary
Proctor (MITS-DU Gwalior)

FACULTY MEMBERS

Dr. Manjaree Pandit

Designation: Professor & Dean Faculty of Engineering & Technology
Qualification: PhD
Area of Interest: Hybrid Renewable Energy Systems, Evolutionary optimization techniques for Power System optimization
Phone No: 0751-2409320
Mobile No: +91 98269 54902
E-Mail: manjaree_p@mitsgwalior.in

Dr. A. K. Wadhwani

Designation: Professor
Qualification: PhD
Area of Interest: Application of Soft Computing Techniques in Biomedical signals, Medical Image Processing
Phone No: 9575208846
E-Mail: akwadhwani@mitsgwalior.in

Dr. Sulochana Wadhwani

Designation: Professor & Head
Qualification: PhD
Area of Interest: Condition monitoring of Electrical Machine
Phone No: 0751-2409311
E-Mail: sulochana_wadhwani@mitsgwalior.in

Dr. Shishir Dixit

Designation: Professor
Qualification: PhD
Area of Interest: Heavy Elect. Equipment, Power System
Phone No: +91 89898 27830
E-Mail: shishir.dixit@mitsgwalior.in

Dr. Himmat Singh

Designation: Associate Professor
Qualification: PhD
Area of Interest: Evolutionary optimization techniques for Power System optimization
Phone No: 9826501588
E-Mail: ahirwar.himmat@mitsgwalior.in

Ashis Patra

Designation: Associate Professor
Qualification: M.E.
Area of Interest: Control System, Electrical Machine
Phone No: +91 9425755085
E-Mail: prof_patra@mitsgwalior.in

Dr. Vijay Bhuria

Designation: Assistant Professor (Selection Grade)
Qualification: PhD
Area of Interest: Power System & Technical Education
Phone No: 9826513467
E-Mail: vijay.bhuria@mitsgwalior.in

Rakesh Narvey

Designation: Assistant Professor
Qualification: PhD (Pursuing DTU, Delhi), M.E. (Industrial Systems and Drives), B.E. (Electrical Engineering)
Area of Interest: Power systems, Renewable Energy
Phone No: 9301884525
E-Mail: rakesh_narvey@mitsgwalior.in

Kuldeep Kumar Swarnkar

Designation: Assistant Professor (Date of Joining-09.08.2010)
Qualification: Ph.D. (Pursuing) DTU Delhi.
Area of Interest: Industrial Systems & Drives
Phone No: +91-9827569098
E-Mail: kuldeepkumarsony@mitsgwalior.in

Dr. Vishal Chaudhary

Designation: Assistant Professor
Qualification: Ph.D., M.E (Gold Medalist), B.E (Silver Medalist)
Area of Interest: Renewable Energy Systems, Power Systems
Phone No: 9926245805
E-Mail: vishalchaudhary30@mitsgwalior.in

Dr. Vikram

Designation: Assistant Professor
Qualification: PhD
Area of Interest: Control System Applications, Identification Theory, Sparse Modeling and representation of Linear Systems
Phone No: 8570952627
E-Mail: vikramsaini@mitsgwalior.in

Dr. Ankit Tiwari

Designation: Assistant Professor
Qualification: BE, M.Tech (IIT Bombay), Ph.D IIT Indore
Area of Interest: Smart city, Electric and green vehicles, SWM
Phone No: 9826375215
E-Mail: ankittiwari@mitsgwalior.in

Dr. Nikhil Paliwal

Designation: Assistant Professor
Qualification: PhD
Area of Interest: Application of intelligent computational techniques in power system control, Energy Storage Systems, Renewable Energy Systems
Phone No: +91-8871313135
E-Mail: nikhil7@mitsgwalior.in

Dr. Yashwant Sawle

Designation: Assistant Professor
Qualification: PhD
Area of Interest: Sizing of Hybrid renewable energy system
Phone No: 9575005868
E-Mail: yashwant@mitsgwalior.in

Manoj Kumar

Designation: Assistant Professor
Qualification: Ph.D (Pursuing),NIT-D, M.Tech(NIT-KKR)
Area of Interest: Advanced Power Electronics, Electrical Drives, Analog Electronics
Phone No: 7017460853
E-Mail: manojsingh716@mitsgwalior.in

Dr. Akash Kumar Shukla

Designation: Assistant Professor
Qualification: PhD
Area of Interest: Renewable Energy, Solar BIPV system, Energy & Exergy Analysis
Phone No: 8461051077
E-Mail: aakashshukla1@mitsgwalior.in

Prof. Sanjay Kulshreshtha

Designation: Assistant Professor
Qualification: M.Tech.
Area of Interest: Industrial systems & drives, Solar energy
Phone No: 9131396354
E-Mail: sk.kulshreshtha12@gmail.com

Prof. Richa Sharma

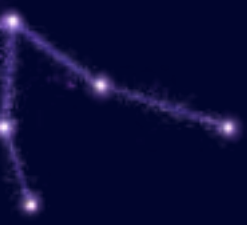
Designation: Assistant Professor
Qualification: M.E.
Area of Interest: Power Quality Problem Solving Using Soft Computing Techniques, Neural Networks
Phone No: 8349617002
E-Mail: richandsharma@mitsgwalior.in

Dr. Rimjhim Agrawal

Designation: Visiting Faculty
Qualification: Ph.D. (IISC-Banglore)
Area of Interest: AI applications in Power Systems, Renewables
Phone No: +91 97697 39477
E-Mail: rimjhim.agrawal7@gmail.com

Er. Shubham Sharma

Designation: Visiting Faculty
Qualification: B.Tech.
Area of Interest: Power Electronics
Phone No:
E-Mail: Sharmashubham51095@gmail.com



EVENTS

Xcalibre 2023

The event "X-CALIBRE" was organized by ISTE Students' Chapter MITS Gwalior on August 25th and 26th. It offered a mock campus placement test to enhance interview skills, prepare for assessments like Online Assessment, GD, and PI rounds, and provided various opportunities for all batches, including internships, high-quality projects, and self-development resources.

YOGA WORKSHOP

Holistic Health Club MITS organized a rejuvenating Yoga Workshop on August 11th, 2023. Participants experienced inner peace and improved physical wellness through various yoga techniques, mindfulness practices, and expert guidance, fostering holistic well-being

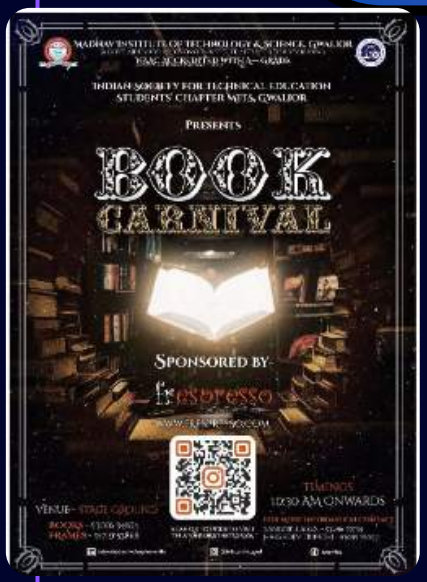
MOON THE ULTIMATE GOAL

On the occasion of Teacher's Day, the Electrical Engineering Department successfully organized a National-level quiz Competition"Moon: The Ultimate Goal" on September 5, 2023. This event showcased academic excellence, promoting knowledge and innovation in the field of Electrical Engineering.

ROBOTICS WORKSHOP

Electrical Engineering Department recently hosted a robotics workshop in collaboration with Techfest IIT Bombay on September 16, 2023. The event aimed to foster innovation and skill development, enhancing participants' knowledge in robotics and technology.

BOOK CARNIVAL



On September 19, 2023, ISTE Students' Chapter at MITS organized "Book Carnival 3.0" , a one-day book fair celebrating literature & reading. The event featured a diverse range of books, fostering community engagement and strengthening the local literary network. Sponsored by Frespresso Gwalior, it attracted over 1500 attendees and successfully promoted reading as a leisure activity, leaving a lasting impact on the love of books & storytelling in the community.

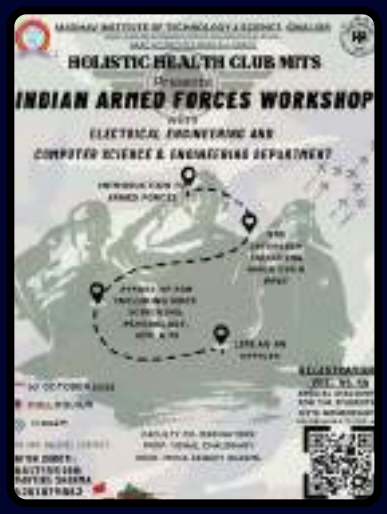
INDUCTION PROGRAM 2023

MITS Gwalior held an extensive induction program from September 18 to 20, 2023, for the incoming B.Tech batch of 2023-2027. The program included department-specific welcomes and orientations, ensuring that students received a comprehensive introduction to their academic journey and fostering a smooth transition into their respective disciplines.

INDUSTRIAL VISIT

The Department of Electrical Engineering organized an industrial visit on September9, 2023 to the 220 KV S/S Gwalior - II Sithouli, Madhya Pradesh, India. This educational excursion provided students with practical insights into electrical infrastructure and operations, enhancing their understanding of real-world applications in the field.

Indian Armed force Workshop



On October 10, 2023, our Holistic Health Club, in collaboration with the Computer Science Engineering Department, hosted an Art of Living session. This transformative event featured meditation techniques to connect participants with their higher selves and spirit teams. Through intentional practice, attendees entered the witness state of mind, fostering holistic well-being. The synergy of spirituality and technology marked a unique intersection, enriching both mind and soul.

Art of Living

On October 10, 2023, our Holistic Health Club, in collaboration with the Computer Science Engineering Department, hosted an Art of Living session. This transformative event featured meditation techniques to connect participants with their higher selves and spirit teams. Through intentional practice, attendees entered the witness state of mind, fostering holistic well-being. The synergy of spirituality and technology marked a unique intersection, enriching both mind and soul.

ICSISCET-2023

Madhav Institute of Technology and Science (MITS), Gwalior hosted the 5th INTERNATIONAL CONFERENCE ON SUSTAINABLE AND INNOVATIVE SOLUTIONS FOR CURRENT CHALLENGES IN ENGINEERING & TECHNOLOGY (ICSISCET -2023) on October 21-22, 2023. The conference, organized in collaboration with the Multidisciplinary Learning and Research Club and IEEE PES Student Branch Chapter MITS, was technically sponsored by the Soft Computing Research Society.

The event was spearheaded by Dr. Manjaree Pandit, the Coordinator and General Chair of ICSISCET - 2023, who holds the position of Professor In-Charge at the Centre of Artificial Intelligence and is also the Dean Academics at MITS, Gwalior, India. Dr. K.K. Aggarwal, the Chief Patron, brought his wealth of experience as the Former Chairman of NBA and Former VC of GGS Indraprastha University, New Delhi, India.

Dr. S. N. Singh, the Honorary Chair and Director of ABV-IIITM Gwalior, played a pivotal role in the success of ICSISCET-2023. Another prominent figure, Dr. J. C. Bansal, General Secretary of the Soft Computing Research Society (SCRS) at South Asian University, New Delhi, contributed significantly to the conference. Dr. Sandeep Kumar, General Chair from CHRIST (Deemed to be University), Bangalore, and Dr. Manoj Kumar Gaur, General Chair and Professor & Head of MED at MITS, Gwalior, India, added their expertise to ensure the conference's success. Dr. Pratesh Jayaswal, the Organizing Chair and Professor & Registrar at MITS, Gwalior, India, played a crucial role in coordinating the various aspects of ICSISCET-2023. The collaboration of these distinguished individuals and organizations made the conference a platform for fostering sustainable and innovative solutions to current challenges in engineering and technology. In this conference, a total of more than 250 research papers were presented, with participants hailing from approximately 11 different countries. In this significant event, the scientific community contributed to the field of study and research through their experiences, fresh perspectives, and new initiatives. ICSISCET-2023 provided a platform for scientists from various countries to share their knowledge, fostering an exchange of ideas and insights. The conference aimed to promote advancements in both technique and technology, paving the way for a prosperous future.

OHM'S ARTISTRY CHALLENGE

The Electrical Engineering Department organized a logo competition, led by faculty coordinators Dr. Nikhil Paliwal and Prof. Vishal Chaudhary, with student coordinators Abhinav Tiwari and Deepansh Kulshrestha. Among 23 submissions, Abhinav Tiwari emerged as the winner, showcasing creativity and excellence in capturing the essence of the department.


MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

CERTIFICATE

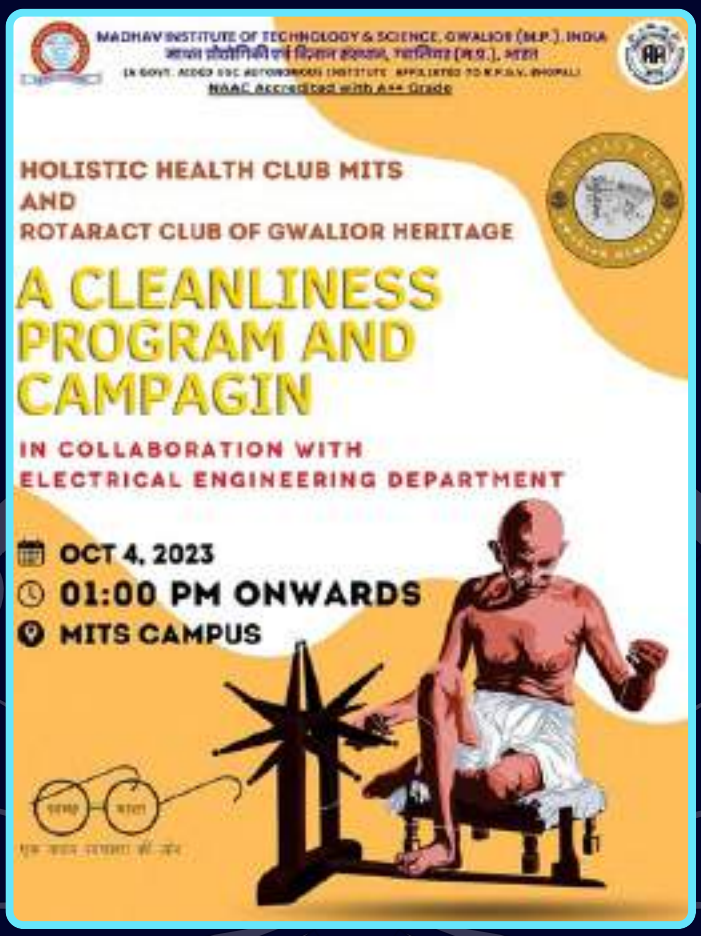
OF ACHIEVEMENT

IS PRESENTED TO

Abhinav Tiwari

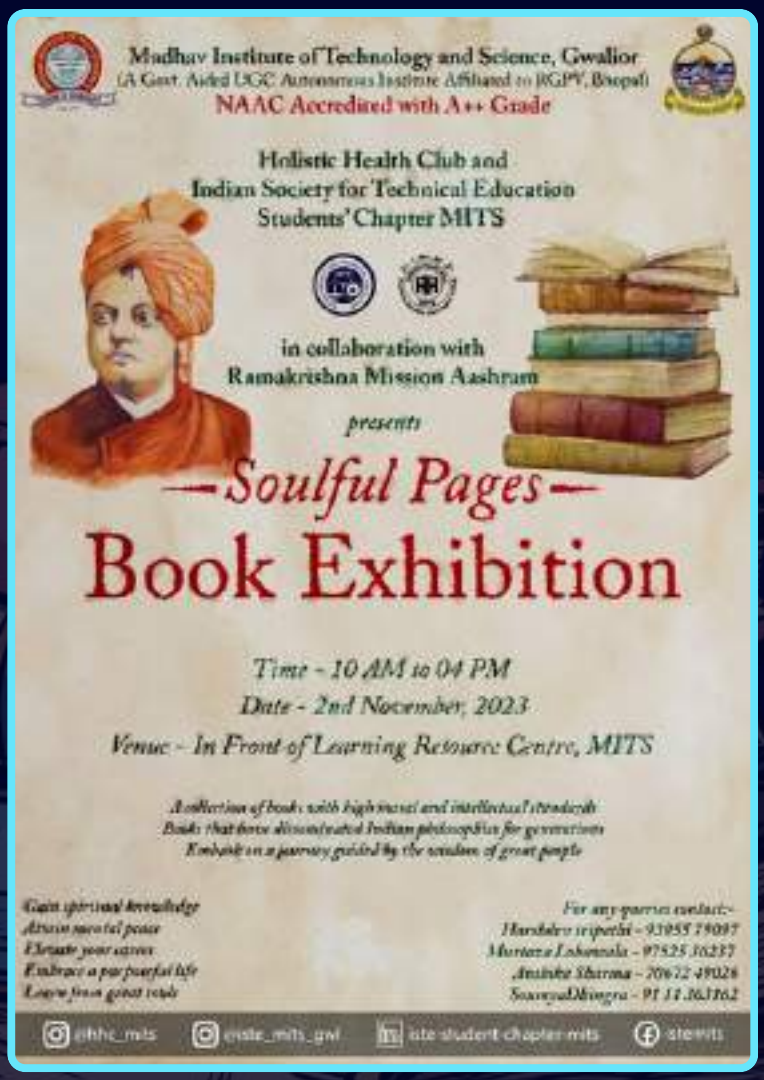
FOR WINNING THE OHM'S ARTISTRY CHALLENGE ORGANISED BY ELECTRICAL ENGINEERING DEPARTMENT ON 7TH NOVEMBER , 2023

A CLEANLINESS PROGRAM & CAMPAGIN



On October 4, 2023, the Holistic Health Club and Rotary Club of Gwalior Heritage joined hands with the Electrical Engineering Department for a collaborative cleanliness program and campaign at MITS campus. Together, they aimed to foster a cleaner and healthier environment through collective efforts and community engagement.

BOOK EXHIBITION



On November 2, 2023, the Holistic Health Club and ISTE Student's Chapter at MITS, in collaboration with the Radhakrishna Mission Ashram, organized a book exhibition in front of the Learning Resource Centre. This collaborative effort aimed to promote knowledge and well-being, fostering a spirit of learning and holistic development within the MITS community.

WRITING CREATIVE

The Holistic Health Club at MITS is hosting a creative writing competition from November 25 to December 3, 2023. Open to all, this event encourages participants to express their creativity through the written word, fostering a holistic approach to well-being. Join us in celebrating the power of imagination and literary expression during this enriching competition.

BLOCKHIVE

The ISTE Student Chapter at MITS Gwalior presents "BlockHive" on November 25-26, 2023, featuring Mr. Snehil Banawal, an esteemed alumnus of ISTE SC MITS-GWL. This session promises insights into blockchain technology, offering students a valuable opportunity to engage with industry expertise and enhance their understanding of this innovative field.

CAREER CATALYST

The Electrical Engineering Department's organise career-related session, "Career Catalyst," on December 15, 2023. The event will feature a keynote address by Mr. Katrikya Kumar, an accomplished alumnus of MITS EED with an M.Tech in Power Systems from IIT Delhi. With a remarkable GATE AIR of 451, Mr. Kumar will share valuable insights, providing guidance and inspiration to students as they navigate their career journeys.

Npti shivpuri Training

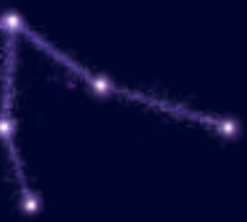
The 5-day training on "Operation and Maintenance of Transmission and Distribution," organized by NPTI Shivpuri and the Department of Electrical Engineering, ran from Dec 18-22, 2023, for third-year Electrical students. Guided by Prof. Vishal Chaudhary and experts like Sh. Yogesh Kumar Paliwal, the program covered advanced power technologies, safety, and hands-on sessions. It equipped students with essential skills for the power sector's dynamic challenges. Gratitude to NPTI Shivpuri and faculty for this successful initiative.

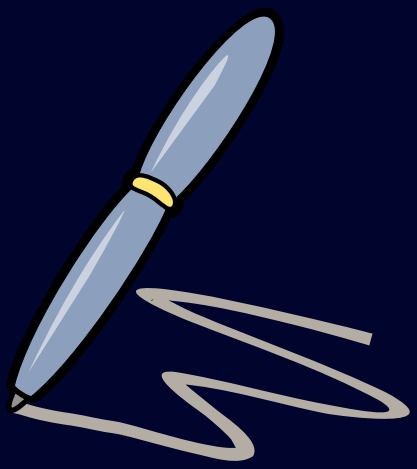
Renewable Energy to Empower Sustainability

The Electrical Engineering Department at MITS Gwalior, under the guidance of DST-FIST Grant, organized a National Level Poster Presentation on “Renewable Energy to Empower Sustainability” on 10th March (MITS Day). The event aimed to provide a platform for students across India to present innovative ideas, research, and projects focused on renewable energy and sustainability. This competition was set in hybrid mode, attracting undergraduate, postgraduate, and doctoral students, participating from various institutions nationwide.

ISCMCTR 2024

Madhav Institute of Technology and Science (MITS), Deemed to be University, Gwalior, MP, India, successfully organized the 2nd International Student Conference on Multidisciplinary and Current Technical Research (ISCMCTR 2024) on April 20-21, 2024. This event was organized in collaboration with the Multidisciplinary Learning & Research Club, IEEE MP Section, IEEE Computer Society, IEEE Power & Energy Society, and IETE. Dr. Manjaree Pandit, Dean of Academics at MITS, served as the conference coordinator. The conference featured the proceedings of ISCMCTR 2023, the Book of Abstracts for ISCMCTR 2024, and the launch of the MITS Journal Volume 1, Issue 1. The event included 10 technical tracks and multiple research paper presentations, providing a platform for students and researchers to showcase their work and engage with current technical research trends.





Faculty Achievements

- Book Chapter: An IOT-Based Moving Vehicle Healthcare Service by Vandana Roy, Hemant Amhia, Shailja Shukla, and A.K.Wadhwani, PP-177-190, entitled “IoT in Healthcare Systems Application, Benefits, Challenges, and Case Studies”, Edited by Piyush Kumar Shukla, Aditya Patel, Prashant Kumar Shukla, Prashant Parashar, and Basant Tiwari, CRC Press, Taylor & Francis Group, ISBN 9780367702151(paperback), ISBN9781003145035(ebook), July-2023.

- `A. Singh, S. K. Rajput and A. Gantayet, "Grid Connected Rooftop PV Plant Economic Analysis Using Present Time Frame Methodology," 2023 International Conference in Advances in Power, Signal, and Information Technology (APSIT), Bhubaneswar, India, 2023, pp. 800-805, doi: 10.1109/APSIT58554.2023.10201656.

- Dr. Shishir Dixit and Vinay Kumar Tatikayala, "Optimal Allocation of Open Unified Power Quality Conditioner in Integrated Distribution System Environment with Renewable Energy Sources" has been accepted for publication in the International Journal of Green Energy. (SCIE)

- Vishal Chaudhary, Hari Mohan Dubey, Manjaree Pandit, Surender Reddy Salkuti. A chaotic Jaya algorithm for environmental economic dispatch incorporating wind and solar power[J]. AIMS Energy, 2024, 12(1): 1-30. https://www.aimspress.com/article/doi/10.3934/energy.2024001

- Solanki, A., Singh, P., Pandit, M., Sawle, Y., Alotaibi, M. A. Malik, H., García Márquez, F. P. & Afthanorhan, A. (2024). Techno-Economic-Environmental Assessment of Stand-alone Hybrid Renewable Energy System for Different Batteries using HOMER-Pro. International Journal of Mathematical, Engineering and Management Sciences, 9(4), 779-800. https://doi.org/10.33889/IJMEMS.2024.9.4.040.

- S. Babu and A. K. Wadhwani, "Elliptic Seizure Diagnosis using Wavelet Transform and Approximation Entropy in EEG Signals," in Proc. 3rd IEEE Int. Conf. Electrical Power and Energy Systems, jointly organized by Dept. of Electrical Engg. MANIT Bhopal and NPTI Faridabad (ICEPES-2024), June 21-22, 2024 .

- Dixit, S., & Tatikayala, V. K. (2024). Optimal allocation of open unified power quality conditioner in integrated distribution system environment with renewable energy sources. International Journal of Green Energy. https://doi.org/10.1080/15435075.2023.2297775

- Dixit, S., & Bansal, P. (2024). A robust modified notch filter-based SOGI-PLL approach to control multilevel inverter under distorted grid. Ain Shams Engineering Journal, 15(5), Article 102675. https://doi.org/10.1016/j.asej.2024.102675

- Monika Saraswat, A. K. Wadhwani & Sulochana Wadhwani, Intelligent deep model based on convolutional neural network's and multi-layer perceptron to classify cardiac abnormality in diabetic patients Physical and Engineering Sciences in Medicinehttps://doi.org/10.1007/s13246-024-01444-7 Physical and Engineering Sciences in Medicine, Springer.

- V.Suraj,Sneha Kaurav and R.Narvey , "Artificial Intelligence in the Field of Medicine" Journal of Emerging Technologies and Innovative Research,Vol.11,Issue 6 , (ISSN : 2349-5162), June 15, 2024.

- R.Narvey , Tshepal Gyaltsen Bhutia , "Research on the Exploitation of Artists in the K-Pop Industry " International Journal for Multidisciplinary Research Vol.6,Issue3, eISSN:2582-2160, May- June 2024.

- Kulshrestha, D., Singh, A., Chaturvedi, R., Tiwari, A., Garg, M., Yadav, R. (2024). Enhancing Diabetes Management: A Machine Learning-Enabled IoT Framework for Early Detection. Presented at 3rd IEEE International Conference on Electrical Power and Energy Systems (ICEPES-2024), MANIT, Bhopal, India. (Presented & Accepted for Publishing)

- Kulshrestha, D., Chaudhary, V., (2024). Enhancing Electrical Fault Detection in Transmission Lines through Machine Learning. Presented at 3rd IEEE International Conference on Electrical Power and Energy Systems (ICEPES-2024), MANIT, Bhopal, India. (Presented & Accepted for Publishing)

- Wadhwani, A. K. (2024). Development of knowledge base system using astrological aspects, distance measure, and fuzzy-neural network for prediction on parliament election results-2024. International Journal of Jyotish Research, 9(1), 14–24. ISSN: 2456-4427.

- Sharma, K., Tiwari, R., Chaturvedi, S., & Wadhwani, A. K. (2022). A comparative assessment of unsupervised and supervised methodologies for LANDSAT 8 satellite image classification. In International Conference Innovation in Smart and Sustainable Infrastructure (ISIS), LNCE (Vol. 364, pp. 31–40). Springer.

- Sharma, K., Tiwari, R., Chaturvedi, S., & Wadhwani, A. K. (2024). Spatiotemporal analysis of land surface temperature trends in Nasik, India: A 30-years study from 1992 to 2022. Earth Science Informatics. https://doi.org/10.1007/s12145-024-01260-3

- Dixit, S., & Tatikayala, V. K. (2023). Multi-stage voltage control in high photovoltaic-based distributed generation penetrated distribution system considering smart inverter reactive power capability. Ain Shams Engineering Journal. https://doi.org/10.1016/j.asej.2023.102265

- Dixit, S., & Saxena, A. (2024). Metaphor-less Rao-3 and artificial neural network and parallel computing-based wheeling pricing in competitive power market. Cogent Engineering.

- S. Dixit and P. Bansal, "A robust modified notch filter-based SOGI-PLL approach to control multilevel inverter under distorted grid," Ain Shams Eng. J., vol. 15, no. 5, Article 102675, 2024. [Online]. Available: https://doi.org/10.1016/j.asej.2024.102675

- S. Dixit, A. Saxena, and S. N. Pandey, "Wheeling pricing calculation and allocation using deep reinforcement learning (DRL) approach," in Proc. 2024 IEEE 12th Int. Conf. Communication Systems and Network Technologies (CSNT), Jabalpur, India, 2024. (Accepted).

- D. Kulshrestha, A. S. Bhadouria, H. Arya, and B. Agrawal, "Interrogating predictive models to augment student mental well-being through machine learning: An in-depth exploratory expedition," in Artificial Intelligence and Sustainable Computing. ICSISCET 2023. Algorithms for Intelligent Systems, M. Pandit, M. K. Gaur, and S. Kumar, Eds., Springer, Singapore, 2024. [Online]. Available: https://doi.org/10.1007/978-981-97-0327-2_47

- D. Kulshrestha, S. K. Rajput, N. Paliwal, and M. Pandit, "Machine learning-based prediction of PV power generation in composite climate," presented at the Int. Conf. Sustainable Power and Energy Research (ICSPER-2024), NIT Warangal, 2024. Springer.

- Dr. Shishir Dixit chaired a session at the 16th IEEE International Conference on Computational Intelligence and Communication Networks (CICN-2024), held at Oriental University, Indore on 22-23 December 2024. His involvement in this event demonstrated his expertise in computational intelligence and communication networks.

- Dr. Arun Kumar Wadhwani has delivered an Expert talk on General Guidelines to publish research Papers in Journal & Meta Analysis for Social,problem, Faculty Development Programme on Systematic Literature Review and Meta Analysis (SLR&MA-2023), 4th – 10th September 2023, Department of Management Studies, ABV-Indian Institute of Information Technology & Management, Gwalior- www.iiitm.ac.in

- Dr. Kaushal Pratap Sengar has successfully completed One Week (10 hours) Live Online Industrial Training on Data Analysis With Python held on 24 - 28 July 2023 Organized by EduLakes Solutions LLP In Association with National Service Scheme (NSS)-IIT Roorkee

- Dr. Shishir Dixit of Department of Electrical Engineering, Madhav Institute of Technology and Science (M.I.T.S.), Gwalior, (M.P.) India has successfully attended For AI in fashion design on 09 September, 2023, organized by BVICAM, New Delhi.

- **Dr. Shishir Dixit of Department of Electrical Engineering, Madhav Institute of Technology and Science (M.I.T.S.), Gwalior, (M.P.) India has been acknowledged as Reviewer in the 7th International conference on Sustainable Innovation (ICOSI 2023), Universitas Muhammadiyah Yogyakarta.**

- **Dr. Shishir Dixit of Department of Electrical Engineering, Madhav Institute of Technology and Science (M.I.T.S.), Gwalior, (M.P.) India has been acknowledged as Track chair reviewer in the 7th International conference on Sustainable Innovation (ICOSI 2023), Universitas Muhammadiyah Yogyakarta.**

- **Dr Bhavna Rathore has successfully completed faculty development program for NPTEL Course- Dc Microgrid And Control Systems.**

- **Dr. A. K. Wadhwani, attended FDP, Five Days Online FDP (e-FDP) "Opportunities and Challenges in Applications of Renewable Energy Systems" OCARES-2023, at NIT, Hamirpur 177005 Oct-23-27, 2023**

- **Dr. Shishir Dixit Chaired the Session at the 5th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET 2023) Organized in In-person and Online (Hybrid Mode) by Madhav Institute of Technology & Science, Gwalior, India Technically Sponsored by Soft Computing Research Society October 21-22, 2023**

- **Dr. Shishir Dixit has successfully participated in the Five Days Online FDP on "Opportunities and Challenges in Applications of Renewable Energy Systems" held on October 23-27, 2023 at the Department of Electrical Engineering, National Institute of Technology Hamirpur, Himachal Pradesh, India.**

- **Dr. Shishir Dixit of the Department of Electrical Engineering, Madhav Institute of Technology and Science (M.I.T.S.), Gwalior, (M.P.) India successfully attended webinar on AI in fashion design on 09 September 2023, organized by BVICAM, New Delhi, Sponsored by Azadi ka Amrit Mahotsav, IEEE Delhi section, IEEE Computer Society Delhi, AICTE New Delhi, CSI Delhi chapter, IITP Delhi, ISTE Delhi section, IMP Delhi.**

- **Dr. Shishir Dixit of Department of Electrical Engineering, MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR has successfully attended Rise of Robots on 23 December, 2023, organized by BVICAM, New Delhi.**

- **Expert Lecture on Diagnostic System for Bone Fractures Analysis Using Image Processing Techniques at UTD, CSVTU, Bhilai, on 10.05.2023.**

- -Prof R Narvey,Attended 5 days of virtual FDP on Global conversation in Mech.Engg.:Bridging Innovation and Sustainibility, conducted by MITS,Andhra Pradesh,India. Feb. 19-23, 2024.

- -Prof R Narvey,Attended 5 days online short term course on Recent Advances in optimizing techniques for Engg Applications, organised by NIT Kurukshetra march 02-06-, 2024.

- Dr. Sulochana Wadhwani & Dr Arun Kumar Wadhwani supervised the PhD thesis of Ms. Rinisha Bagaria, Ph.D. awarded on 20.05.2024 the topic Development of Diagnostic System for Bone Fractures using Image Processing Techniques from RGPV, University, Bhopal.

- Dr. Sulochana Wadhwani & Dr Arun Kumar Wadhwani supervised the PhD thesis of Mr. Manoj Kumar Ojha. Ph.D. awarded on 20.05.2024 the topic ECG signals Processing for Early Prediction of Abnormality of Heart Function using HRV Analysis from RGPV, University, Bhopal

- Dr Arun Kumar Wadhwani delivered Expert Lecture on Chakra Energy Measurement, Healing Science and Pandemic Duration Prediction: An Integrated Knowledge Base System with Astrological Aspects & Fuzzy Approaches, at Atal Bihari Vajpayee University, Bilaspur on 10.02.2024

- Dr Arun Kumar Wadhwani delivered Keynote talk on Chakra Energy Measurement, Healing Science and Pandemic Duration Prediction: An Integrated Knowledge Base System with Astrological Aspects & Fuzzy Approaches, at in the International Conference on Recent Trends in Engineering, Management, Pharmacy and Science (SAGECON2K24) and SERB Granted International Symposium on Modern Technologies of Electronics, Computer and Electrical Engineering on 29th February & 1st March 2024 at Sagar Institute of Research andL Technology (SIRT), Bhopal.

- Dr. Shishir Dixit of MITS Gwalior has successfully attended Trust Models for Social IoT Networks on 06 January, 2024, organized by BVICAM, New Delhi. Sponsored by Azadi ka Amrit Mahotsav, IEEE Delhi section, IEEE Computer Society Delhi, AICTE New Delhi, CSI Delhi chapter, IITP Delhi, ISTE Delhi section, IMP Delhi.

- Dr. Shishir Dixit of MITS Gwalior has successfully attended Decentralized Systems: A Journey Through Distributed Computing on 17 February, 2024, organized by BVICAM, New Delhi.Sponsored by Azadi ka Amrit Mahotsav, IEEE Delhi section, IEEE Computer Society Delhi, AICTE New Delhi, CSI Delhi

- Dr. Shishir Dixit of MITS Gwalior has successfully attended Technology Trends and Revolution in Web and Mobile on 20 January, 2024, organized by BVICAM, New Delhi.Sponsored by Azadi ka Amrit Mahotsav, IEEE Delhi section, IEEE Computer Society Delhi, AICTE New Delhi, CSI Delhi chapter, IITP Delhi, ISTE Delhi section, IMP Delhi.

- Dr. Shishir Dixit of MITS Gwalior has successfully attended Trust Models for Social IoT Networks on 06 January 2024, organized by BVICAM, New Delhi. Sponsored by Azadi ka Amrit Mahotsav, IEEE Delhi section, IEEE Computer Society Delhi, AICTE New Delhi, CSI Delhi chapter, IITP Delhi, ISTE Delhi section, IMP Delhi

- Dr.Shishir Dixit .has Successfully Completed a Two Day Faculty Development Programme titled: “Artificial Intelligence, Robotics and Internet of Things” organized by Centre for Artificial Intelligence, Madhav Institute of Technology & Science, Gwalior during November 2, 2023 to November 3, 2023

- Prof. Anuj Lodhi of MITS Gwalior has successfully completed a Five days Faculty Development Programme titled: “ Role of Green Energy Towards Sustainable Smart Cities” organized by IEEE JSSATEN, held by JSS Academy of Technical Education From 13th -17th February 2024

- Prof. Anuj Lodhi of MITS Gwalior has successfully attended a two-day Peer-Learning Workshop on “Laboratory Practices for Internet of Things” is organized by the Centre for Internet of Things from Jan 11th, 2024 to Jan 12th, 2024 at MITS Gwalior

- Prof. Poonam Singh of MITS Gwalior has successfully attended a one-week Peer Learning Training Program on “Artificial Intelligence and Machine Learning – Basics” organized by Centre for Artificial Intelligence from 8th January, 2024 to 12th January, 2024 at MITS Gwalior

- Prof. Poonam Singh of MITS Gwalior has successfully attended a two-day Peer-Learning Workshop on “Laboratory Practices for Internet of Things” is organized by the Centre for Internet of Things from Jan 11th, 2024 to Jan 12th, 2024 at MITS Gwalior

- Prof. Poonam Singh of MITS Gwalior has successfully attended a one-week Peer Learning Training Program on "Python Programming", which is to be jointly organized by Centre for Internet of Things and Dept. of Electrical Engineering from Jan 15, 2024 to Jan 19, 2024. MITS, Gwalior
-

- Er. Yogeshwar Dayal Jaital of MITS Gwalior has successfully attended a one-day workshop on “Virtual Labs” which is to be jointly organized by Centre for Internet of Things and Dept. of Electrical Engineering, MITS, Gwalior. on February 2, 2024, in collaboration with IIT Delhi

- Arun Kumar Wadhwani, Development of Knowledge Base System using Astrological Aspects, Distance Measure & Fuzzy-Neural Network for Prediction on Parliament Election Results-2024, International Journal of Jyotish Research: 2024; 9(1): pp-14- 24, ISSN: 2456-4427 Impact Factor: RJIF: 5.11, www.jyotishajournal.com.

- A Comparative Assessment of Unsupervised and Supervised Methodologies for LANDSAT 8 Satellite Image Classification, K. Sharma, R. Tiwari, S. Chaturvedi & A.K.Wadhwani, International Conference Innovation in Smart and Sustainable Infrastructure , ISIS, 2022, PP-31-40, Springer, LNCE, Volume 364

- K. Sharma, R. Tiwari, S. Chaturvedi & A.K.Wadhwani, Spatiotemporal Analysis of land surface temperature trends in Nasik, India: A 30-years study from 19992 to 2022,Vol No: 10.1007/$12145-024-01260-3,Earth Science Informatics (Q2)

- Dr. Shishir Dixit, Kumar Tatikayala, V. “Multi-stage voltage control in high photovoltaic based distributed generation Penetrated Distribution System considering smart inverter reactive power capability,” Ain Shams Engineering Journal, p. 102265. Available at: https://doi.org/10.1016/j.asej.2023.102265.,Q1 Journal (SCIE0

- Dr. Shishir Dixit, A. Saxena, “Metaphor-Less Rao-3 & Artificial Neural Networkand Parallel Computing based Wheeling Pricing in Competitive PowerMarket Cogent Engineering accepted for publication in Cogent Engineering on Apr 03, 2024.Q2 Journal (SCI) (ESCI)

- Dr. Shishir Dixit & Vinay Kumar Tatikayala (2024) Optimal allocation of open unified power quality conditioner in integrated distribution system environment with renewable energy sources, International Journal of Green Energy, DOI: 10.1080/15435075.2023.2297775 Q2 Journal (SCI)

- Dr.Shishir Dixit & Bansal, P. et al. (2024) ‘A robust modified notch filter based SOGI-PLL approach to control multilevel inverter under distorted grid’, Ain Shams Engineering Journal, 15(5), p. 102675. doi:10.1016/j.asej.2024.102675. Q1 Journal (SCIE
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PLACEMENT'S

Batch - 2024

S.No.	Full Name	Company Name	Salary (In Rs.)
1	Ajay Sharma	Accenture	450000
2	Oam Shankar A	Accenture	450000
3	Sanidhya Sharma	Accenture	450000
4	Shakti Pandey	Accenture	450000
5	Nidhi Yadav	Career Mantra	300000
6	Apoorv Mishra	CG Power	450000
7	Danish Singhal	CG Power	450000
8	Priya Patel	CG Power	450000
9	Saksham Singh	CG Power	450000
10	Abhishek Ahirwar	CG Power	200000
11	Harshita Shakya	CG Power	200000
12	Muskan Chhapariya	CG Power	200000
13	Sanidhya Mudgal	CG Power	200000
14	Sonam Sahu	CG Power	200000
15	Pankaj Rathor	CG Power	200000
16	Ayush Meena	Cognizant	450000
17	Harshita Gupta	Cognizant	450000
18	Pankaj Rathor	Corizo Edutech Pvt, Ltd.	400000
19	Riddhi Bansal	Eicher Volvo	450000
20	Priyanshi Tiwari	Flovol Technologies Pvt. Ltd.	300000
21	Shivansh Gaur	Flovol Technologies Pvt. Ltd.	300000
22	ADITYA MAHORE	LTIMindtree	405000
23	Anuragdeep Srivastav	LTIMindtree	405000
24	Akshat Jain	Newgen	400000
25	Ashish Sharma	Newgen	400000

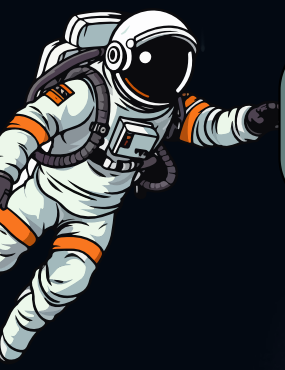
26	Harshit Kumar Jha	Newgen	400000
27	Mohmmad Suaib Mansuri	Newgen	400000
28	Sanjana Patel	Newgen	400000
29	Abhishek Jangariya	Prompt	180000
30	Ankush Agrawal	RINEX	520000
31	Anuragdeep Srivastav	RINEX	520000
32	Harshit Gupta	RINEX	520000
33	Nitish Sengar	RINEX	520000
34	Priyanshi Tiwari	Talentserv	600000
35	Rahul Sharma	Talentserv	600000
36	Vipin Sharma	Talentserv	600000
37	Ashutosh Dandotiya	TCS-Ninja	336000
38	Krishna Kant Dwivedi	Theory of Physics,Sigma Instrumentation	200000

Batch - 2023

S. No	Name of Student	Name of Employer	Salary Package (In Rs.)
1	Aayush Goyal	Vaco Binary Semantics	350000
2	Abhi Asthana	Newgen	425000
3	Abhishek Singh	BYJU's	750000
4	Aditi Jain	Accenture	450000
5	Aditi Jain	LTI	400000
6	Aditya Shukla	Acuity Knowledge	600000
7	Akshat Baranwal	HikeEdu	450000
8	Akshat Baranwal	LTI	400000
9	Akshat Gupta	Accenture	450000
10	Akshat Singh Chauhan	LTI	400000
11	Aman Khan	HikeEdu	450000
12	Aman Khan	Simplify VMS	725000
13	Aman Thakur	Newgen	425000
14	Anchal Rajak	Asahi India	300000
15	Anish Choudhary	LTI	400000
16	Anish Choudhary	TCS-Digital	750000
17	Ankit Kumar Tripathi	DCM Shriram	318000
18	Ankit Rana	Volvo Eicher	450000
19	Anshika Jain	Newgen	425000
20	Anshika Jain	TCS-Ninja	350000
21	Anurag Singh	HCL Technologies Ltd.	425000
22	Anurag Singh	HCL Technologies Ltd.	425000
23	Anurag Singh	BYJU's	750000
24	Anurag Singh	CG Power	450000
25	Arunansh Sharma	Volvo Eicher	450000
26	Ashish Chaturvedi	Newgen	425000
27	Ashish Mishra	LTI	400000
28	Ashish Sharma	Accenture	450000

29	Ayush Khatik	RxLogix	650000
30	Ayush Khatik	TCS-Digital	750000
31	Ayush Tiwari	RxLogix	650000
32	Bhaskar Shastri	BYJU's	750000
33	Deependra Rajput	Asahi India	300000
34	Gourav Minocha	LTI	400000
35	Harshit Agrawal	RxLogix	650000
36	Harshit Rajput	IBM	450000
37	Harshit Rajput	TCS-Ninja	350000
38	Himanshu Gupta	DCM Shriram	318000
39	Jay Kumar Sahu	LTI	400000
40	Jisha Gupta	Accenture	450000
41	Jisha Gupta	TCS-Ninja	350000
42	Jiti Mishra	Accenture	450000
43	Kartikey Kumar	RxLogix	650000
44	Kaushal Kumar	RxLogix	650000
45	Kushagra Mishra	LTI	400000
46	Kushagra Sharma	Accenture	650000
47	Mridul Gupta	Accenture	450000
48	Mudit Sharma	LTI	400000
49	Mukul Savita	Accenture	450000
50	Mukul Savita	TCS-Ninja	350000
51	Nikhil Yadav	Accenture	450000
52	Nikita Sikarwar	Accenture	450000
53	Nishi Sisodiya	Asahi India	300000
54	Prashant Srivastava	LTI	500000
55	Priyanshi Yadav	LTI	400000
56	Pushpendra Yadav	Kloudspot	810000
57	Raja	Asahi India	300000
58	Rekha Bisen	Volvo Eicher	450000

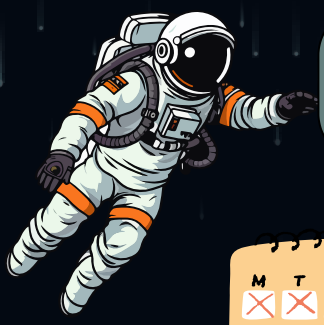
POEMS



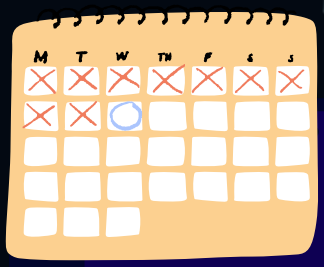
चाँदनी रात का जादू

चाँदनी रात में कुछ खास बात है,
सूरज की रोशनी से भी प्यारी रात है।
चाँद की चाँदनी छिटक रही है चारों ओर,
सुकून की सी हवा है, जैसे कोई ग़ज़ल का नोट।
सितारे भी छुपकर नज़र आते हैं,
रात के सन्नाटे में दिल को बहलाते हैं।
हर पेड़ की शाखा पर, जैसे झूल रहे हों गीत,
चाँदनी रात में सब कुछ लगता है सरीफ।
राहों पर बिखरी चाँदनी की किरणें,
जैसे बुनाई हो एक सुहानी लकीरें।
हवा में घुली सुगंध, जैसे कोई प्यार की बात,
दिलों में बसी है एक खास चाँदनी रात।
देख तो सही इस रात का जादू,
नज़रों में बसे हैं उसके दिल के राज़।
चाँदनी रात में सुकून ही सुकून है,
यह रात बस एक ख्वाब, हर दिल का जुनून है।

EED FINAL YEAR
SHASHANK BHARGAV



कॉलेज का आख़िरी दिन



कॉलेज का आख़िरी दिन आया,
मन में मिले-जुले ख़याल समाया।
ज़िंदगी का एक और मोड़ आया,
अब हर दिन नया सा लगता जाएगा।
सपनों में खोए रहते थे हम,
अब उन यादों में खो जाएंगे हम।
दोस्ती का वो प्यारा सा दौर,
अब हो जाएगा बस एक तजुर्बा भरपूर।
कभी खिलखिलाहट थी, कभी आँसू थे,
हमेशा चाय के कप में घुले वो सुख-दुःख थे।
कभी पढ़ाई से पागल थे हम,
अब वही यादें होंगी साथ हमारे हम।
ग़लतियाँ की थीं, फिर भी साथ दिया,
अब इस सिर को छोड़ते हुए सन्नाटा खींचा।
हर मंज़िल की एक शुरुआत होती है,
आज वही पल हमारे साथ होती है।
आज से हम अलग राहों पर जाएंगे,
लेकिन कॉलेज की यादें कभी न जाएंगी।
आगे बढ़ेंगे हम, ये तय है,
कॉलेज का आख़िरी दिन बस अब याद रहेगा।

EED FINAL YEAR
Naman Sharma

वक्त की कहानियाँ

EED 2ND YEAR
SEVI SHARMA

वक्त चलता रहा, रुकने का नाम न लिया,
हर लम्हे ने अपनी कहानी बुन लिया।
कभी धूप की चादर ओढ़ ली इसने,
तो कभी चांदनी में खुद को खो दिया।

हर घड़ी के साथ बहा एक नया सपना,
कभी हकीकत, कभी बस अपना-सा झूठा।
कभी बचपन की हंसी में गूंजा,
कभी जवानी के ख्वाबों में डूबा।

वक्त ने बुने हैं रिश्तों के धागे,
कभी उलझे, कभी सीधे-साधे।
दिया है सबक हर एक मोड़ पर,
फिर भी रहा मौन, जैसे कोई राज़ हो सिरफिरा।

वो पुरानी तस्वीरों में झांकता है,
वो खामोशियों में मुस्कुराता है।
वो बूढ़ी आंखों के आसुओं में दिखता है,
और बच्चों की किलकारियों में झलकता है।

वक्त की कहानियां हैं अनगिनत,
हर दिल में छुपी हैं यादों की कतरन।
कभी रुलाता, कभी गुदगुदाता,
वक्त ही तो है, जो जीवन को समझाता।

आओ, सुनें इस वक्त की आवाज़,
इसकी कहानियों में छुपे हैं कुछ राज़।
हर पल को जियो, हर लम्हे को गुनगुनाओ,
वक्त की किताब में अपना किस्सा लिख जाओ।

तुम और मैं

कॉलेज का पहला दिन, न तुम मुझे जानती थी, न मैं तुझे,
अलग-अलग राहों के मुसाफ़िर थे हम, छुपे हुए लम्हों में।
वक़्त गुज़रता गया, तुम चाँद-सी मुस्कान लिए चलती थी,
चाँद-सी सूरत, हसीन अदाओं से हर पल को सजाती थी।
कितनी बार सोचा, कह दूं तुमसे कुछ बात,
फिर वो लम्हा आया, और हमसे हुई मुलाकात।
हर दिन की बातों में था जादू, एक अजीब सा खुमार,
फिर हमने एक-दूसरे को प्यार भरे नामों से पुकारा बार-बार।
तुम और मैं समझ गए एक-दूसरे का हर हाल,
कहा था तुमसे, तुम जैसी दोस्ती नहीं होगी कोई बेमिसाल।
पर न जाने कब, किस बात से राहें बदल गईं,
छूटे वो संग के पल, मेरी रातें तेरी यादों में जल गईं।
याद आता है कॉलेज की पार्किंग में वो इंतजार,
ठंडी रातों में छुप-छुप कर मिलने का खुमार।
अब जब सामने से गुजरते हो, नज़रें झुक जाती हैं,
दिल में छुपी चाहत, पर होंठों पर ख़ामोशी छा जाती है।
पर यारा, अब भी दिल में तेरी वही जगह है बनी,
वो दोस्ती, वो ख्वाब, आज भी मेरी धड़कनों में धनी।

EED DEPARTMENT
Anonymous

You go, You fly
You touch the sky
And never look back
To the village who
Abandoned you the moment
You were born.
To the family whose
Heart can't be melted by
Your innocent smile.
You have to run far away
To be closer to yourself.
You don't owe
Anything to anyone.
Your success, Your scars,
Your failure, Your flaws
Are all yours.
Wear them like badge
Of honour
And show them what you are made of,
You go, You fly,
You touch the sky
You break every
Rule, they apply.

EED 2nd Year
Amrita Mishra

Loss And Grief

In the quiet hum of daily life,
We speak of death, but not of strife.
A whispered thought, a distant theme,
As fleeting as a passing dream.
“Death is natural” we often say,
Part of the cycle, come what may.
A leaf that falls, a setting sun,
A race that’s lost, but still well-run.
We build our lives with this in mind,
An abstract truth, a comfort kind.
But when it comes, we can’t prepare,
A deep, raw ache fills the air.
When someone we love is gone for good,
The heart breaks open, misunderstood.
The mind can’t grasp, the soul can’t bear,
How to fill that empty chair.

All the theories, all the words,
Fall silent now, no comfort heard.
For in the moment of loss we see,
How far from ready we can be.
The finality of death’s embrace,
No longer a familiar face.
The one we loved, now just a name,
And we are left with grief and pain.

To normalize is not to forget,
But to understand the deep regret,
That though we know it’s bound to come,
The pain of loss is never numb.
So, in the space between the two,
May we learn to honor what is true:
That death is both a part of life,
And also, at times, the sharpest knife.
We balance what we know, and feel,
With love that’s timeless, raw, and real.
For loss, though cruel, teaches us to see
The preciousness of what will be.

EED 2nd Year
ADITI JAIN

You Are All Okay Here

I headed to the hill,
With the tease in my heart.

The hill was high, and I was sighing.
I met the stones and wind that passes,
For every fruit and friend,
I opened up like glasses.
They were quiet but pleasant in bite.
I walked till dawn and found myself alone,
With puzzled words of mine and regrets to dine.
The regret of varied perceptions,
And always afraid of other notions.
I folded my arms to not get into the wrong charms.
The dusk before dawn crippled me to walk,
Over the heavy portrait I made over talk, it was infamous,
In genuine and surrounded by not's.
I was unable to speak out when I had much to share about.
Some stones were heavy and some were light,
But when it comes to words,
They all were prejudiced :
First help, criticize, then do injustice and right.
Whereas winds were soft and pleasing in nature,
They travel with words and local features.
Pure of them live at height over stones and deluded kites.

My talk of not's has made me weak, as over top I never desired to reach.
I was fake and shallow and drowning in my speech.
It made me adamant to not share the truth and beat around the bush.
The stones and wind heard me grind,
They tried to befriend and sit for some time.
Stone was still, and wind was swirling,
I cried my heft and some stones left,
Some stones erupted over the fault of mine, getting deserted,
While some stones holded and were unknowingly determined to make the scenario folded.

As once I shared the desires and became a clown,
The rest of the stones mocked and dwindled in the ground.

Only wind was listening without making any sound,
Healing me of a heavy wound.
And when I cleared my sight,
I saw wind swirling in flowers of night,
And fireflies around the lying kites.
They were mesmerizing and beautiful and full of light.
The wind grabbed my hand and carried me in the air,
And whispered, "You're all okay here."

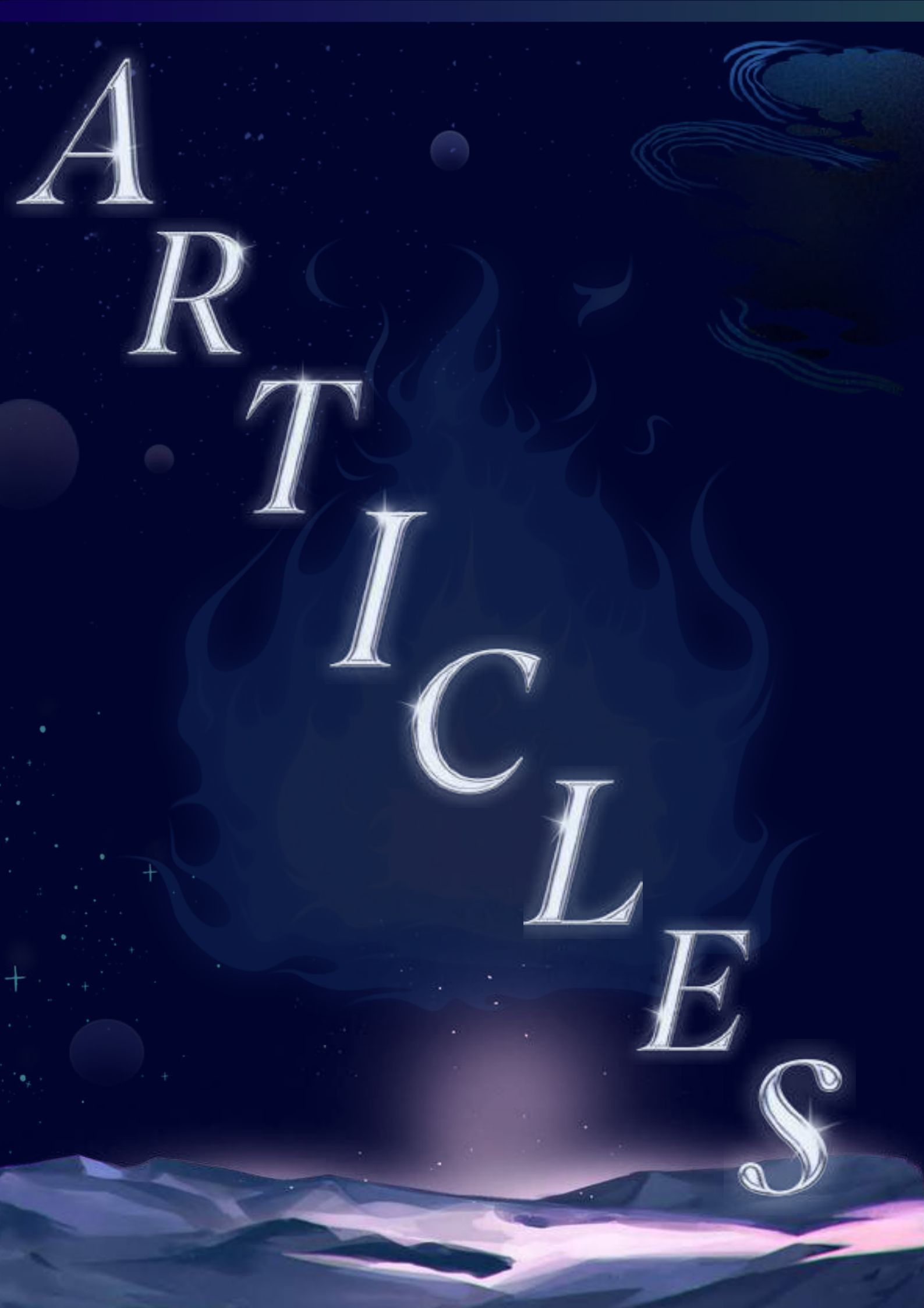
EED 3rd Year

Kavi Kumar

art work

EED 2nd Year

Manushree Ghosh


ARTICLES

The Impact of Renewable Energy on India

India, with a population exceeding 1.4 billion, faces the dual challenge of meeting its growing energy demands while addressing environmental concerns. The shift toward renewable energy sources like solar, wind, hydro, and biomass is transforming the country's energy landscape, offering significant environmental, economic, and social benefits.

Environmental Impact

The environmental advantages of renewable energy are crucial for India, where heavy reliance on coal and fossil fuels has contributed to severe air pollution and carbon emissions. Renewable sources such as solar and wind produce little to no emissions during operation, helping to reduce India's carbon footprint and mitigate climate change. India's commitment to increasing its share of non-fossil fuel-based energy, as per the Paris Agreement, is central to its long-term environmental goals, aiming to have 40% of its energy come from non-fossil fuels by 2030.

Economic Impact

The renewable energy sector has also fueled significant economic growth. As the cost of technologies like solar and wind continues to fall, they are becoming cost-competitive with traditional energy sources. India has attracted substantial investments, creating jobs in manufacturing, installation, and maintenance. The renewable energy sector employed over 1.1 million people by 2021 and continues to expand. Moreover, renewable energy reduces India's reliance on imported coal and oil, thus improving energy security and reducing foreign exchange spending.

Social Impact

Renewable energy also improves the lives of India's rural population. Off-grid solar solutions are providing electricity to remote areas, enhancing access to education, healthcare, and economic opportunities. These projects create local jobs and support small-scale industries, boosting rural economies.

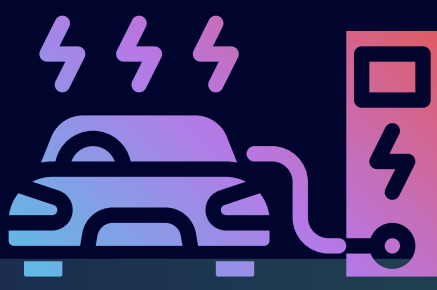
In conclusion, India's push for renewable energy is key to achieving sustainable development, reducing environmental impacts, promoting economic growth, and enhancing the quality of life for millions.

The Rise of Electric Vehicles (EVs) : A Sustainable Future

Electric vehicles (EVs) are revolutionizing the automotive industry, offering an eco-friendly alternative to traditional gasoline-powered cars. As global concerns about climate change and environmental degradation grow, the shift towards EVs has become crucial in reducing carbon emissions, improving air quality, and decreasing dependence on fossil fuels.

One of the primary advantages of EVs is their contribution to reducing greenhouse gas emissions. Unlike conventional vehicles that emit carbon dioxide (CO2) and other pollutants, EVs produce zero tailpipe emissions. This makes them an essential part of the solution to combat climate change. Moreover, EVs can be powered by renewable energy sources like solar and wind, further reducing their environmental impact.

EV technology has also witnessed significant advancements in recent years. Improvements in battery technology have led to longer driving ranges, faster charging times, and reduced costs. As a result, EVs are becoming more affordable and practical for everyday use. In addition, governments worldwide are offering incentives such as tax rebates and subsidies to encourage EV adoption, further boosting their appeal.



The growing network of charging infrastructure is another factor driving the adoption of electric vehicles. With more charging stations being installed in urban areas and along highways, range anxiety—fear of running out of battery—has become less of a concern for EV owners.

In addition to environmental benefits, EVs are also becoming a symbol of innovation and progress. Major automakers are investing heavily in electric mobility, with many planning to shift to an all-electric future in the coming decades.

In conclusion, electric vehicles are not just a trend but a necessary shift towards a cleaner, more sustainable future. With continued advancements in technology and increased adoption, EVs will play a pivotal role in shaping the future of transportation.

EED FINAL YEAR
Nandini Thakur

Artificial Intelligence Integration in Electrical Engineering : Revolutionizing the Industry

Artificial Intelligence (AI) has emerged as a transformative force in various industries, and electrical engineering is no exception. The integration of AI into electrical engineering is enhancing the efficiency, accuracy, and capabilities of systems, enabling smarter solutions for everything from power generation to electrical grid management and automation.

One of the most significant applications of AI in electrical engineering is in the optimization of power systems. AI algorithms are being used to predict electricity demand, improve load forecasting, and enhance energy efficiency. For instance, AI-based predictive models can forecast energy consumption patterns, helping utilities optimize power generation and distribution. This leads to cost savings, reduced energy waste, and a more reliable grid system. Machine learning techniques, a subset of AI, are also applied in fault detection and maintenance, allowing for real-time monitoring and early detection of electrical system anomalies, minimizing downtime and improving system reliability.

AI has also made substantial contributions to renewable energy integration. With the increasing reliance on solar, wind, and other renewable energy sources, the variability of these energy sources can pose challenges to power systems. AI helps in balancing energy production and consumption by using data-driven algorithms to predict fluctuations in renewable energy generation and adjust grid operations accordingly. This makes the grid more resilient and helps optimize the use of renewable energy.

In automation, AI is playing a key role in the development of smart grids and smart homes. Smart grids use AI to manage the flow of electricity, allowing for real-time adjustments based on demand, supply and grid conditions. Similarly, AI is central to smart home technology, where it powers systems like lighting, heating, and cooling based on user preferences and energy-saving algorithms, optimizing power usage.

Moreover, AI is being utilized in electrical equipment design and manufacturing. Machine learning algorithms help in simulating electrical systems and designing more efficient components. AI-driven automation systems are also improving the precision and speed of manufacturing processes, reducing errors and enhancing production capabilities.

In conclusion, the integration of artificial intelligence into electrical engineering is transforming the industry, improving system performance, enhancing efficiency, and enabling smarter, more sustainable solutions. As AI technology continues to evolve, its applications in electrical engineering will likely expand, opening new possibilities for innovation in power systems, automation, and energy management. This intersection of AI and electrical engineering is shaping a future where electrical systems are smarter, more reliable, and more efficient.

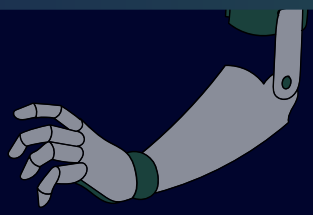
EED FINAL YEAR
DIVYANI LOKHANDE

The Intersection of Biomedical and Electrical Engineering : Shaping the Future of Healthcare

Biomedical engineering (BME) is a dynamic field that combines principles of engineering with biological and medical sciences to innovate and improve healthcare solutions. As technology continues to advance, the collaboration between biomedical and electrical engineering has become crucial in developing cutting-edge medical devices, diagnostic tools, and therapeutic technologies.

Electrical engineering plays a pivotal role in the field of biomedical engineering. From designing electronic devices for medical purposes to creating complex systems for monitoring and diagnosing diseases, electrical engineers are at the forefront of medical technology. The integration of electrical engineering principles such as circuit design, signal processing, and systems control has led to significant innovations in healthcare.

One of the most notable contributions of electrical engineering to biomedical engineering is in the development of medical imaging technologies. Devices like MRI (Magnetic Resonance Imaging), CT (Computed Tomography) scans, and X-rays rely heavily on electrical engineering techniques to produce detailed images of the body. Electrical engineers are involved in the design and improvement of the hardware and software used in these imaging systems, ensuring their accuracy, safety, and efficiency.



Another area where electrical engineering and biomedical engineering intersect is in the development of wearable health devices. These include heart rate monitors, glucose sensors, and fitness trackers, which use electrical components to collect real-time data about a patient's health. These devices help in monitoring chronic conditions and enabling personalized treatment plans, empowering both healthcare providers and patients to make informed decisions.

Additionally, the development of prosthetics and assistive devices has benefitted greatly from electrical engineering innovations. Modern prosthetic limbs incorporate electrical components like motors and sensors to replicate natural movement, enhancing mobility and quality of life for individuals with limb
loss.

In conclusion, the synergy between biomedical and electrical engineering is transforming the healthcare industry. By combining the precision of electrical engineering with the insights of biomedical sciences, engineers are developing revolutionary technologies that improve patient care, enhance diagnostics, and drive the future of medicine. This collaboration not only holds promise for more effective treatments but also for a future where healthcare is more personalized, accessible, and efficient.

EED FINAL YEAR
KUNAL BHARADWAJ

The Cold Day

Today it's 07th January, amid this bitter winter where trees shed their aliveness to dry and cold air lashes. I have seen many who are unwilling to leave their warm safe havens to go out in this dreadful cold for the sake of their survival and their dependents. It's not only these walking sapiens who make me realize the true side of nature but also our fellow stakeholders living on this Earth same as us but often go unnoticed.

Yesterday I came across these unnoticed spawnlings supporting each other taking the little bit of what's left of warmth they can get from an extinct bonfire, Surviving in this cool and windy Dark night they made me think about what sins these souls have committed to being left so helpless in this life, What punishment the Almighty is giving them for such fate, but I quickly realized that rather than crying on the injustice befallen on them by the Higherself at such tender age they were instead enjoying the warmth of their companionship which increases their hunger to survive the night.

I chuckled at how we sapiens living in structured places in bricks and cement often create walls between us to call for privacy and freedom but the same of us usually complain about the loneliness groping us like it isn't the gift we presented to ourselves. Sometimes these unintelligent creatures teach us the real meaning of the knowledge that we intelligent living choose to ignore. It doesn't matter whether the day is hot or cold which makes us feel the curse of nature but what matters is how willingly we are ready to accept things happening and to work on it. After all, it's the survival of the fittest.

EED 3rd Year

Abhinav Tiwari

Revolutionizing Core Engineering : The Power of AI and ML

Artificial Intelligence (AI) and Machine Learning (ML) are reshaping industries, including core engineering, which traditionally focuses on designing and developing machinery, infrastructure, and systems. Integrating AI and ML into core engineering offers enhanced efficiency, innovation, and problem-solving.

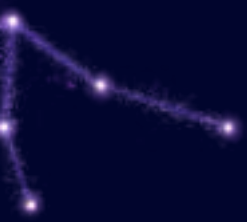
AI & ML in Core Engineering

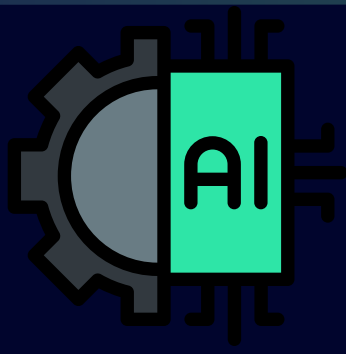
AI mimics human intelligence, enabling tasks like decision-making, voice recognition, and image processing. ML, a subset of AI, uses algorithms to learn from data, offering accurate predictions and pattern recognition. Their adoption in engineering addresses challenges like human error, repetitive tasks, and scalability limitations.

Applications and Benefits

AI automates tedious tasks, reducing errors and boosting productivity. Predictive maintenance, powered by sensors and AI, identifies equipment issues before failures, saving costs and minimizing downtime. AI and ML also analyze large datasets, uncovering actionable insights to optimize designs and improve decision-making.

In civil engineering, AI-driven simulations optimize structural designs, while in manufacturing, AI-powered robots detect defects and predict equipment failures. Electrical engineering leverages AI for power grid management, demand forecasting, and real-time fault detection, creating efficient smart grids. The integration of AI with the Internet of Things (IoT) further enables real-time monitoring and autonomous decision-making in engineering systems.





Challenges and Future Prospects

Adopting AI and ML requires substantial investment in infrastructure, data, and expertise. Concerns about data privacy, cybersecurity, and ethical implications persist. However, their potential for intelligent and autonomous systems promises a transformative future, making industries more productive, sustainable, and adaptive.

Conclusion

AI and ML are set to revolutionize core engineering by enhancing efficiency, reducing costs, and enabling smarter solutions. As industries embrace these technologies, we can expect innovative advancements, paving the way for sustainable and intelligent engineering practices.

EED 3rd Year

Deepansh Kulshrestha

Powering India's Future : How BHEL Is Shaping the Nation's Energy

Powering India's Future : How BHEL Is Shaping the Nation's Energy Landscape

In a nation as large and diverse as India, the role of energy in driving economic growth and development cannotbe overstated. As the country continues to witness rapid industrialization, urbanization, and an expanding population, the demand for energy has risen exponentially. Amidst this challenge, Bharat Heavy Electricals Limited (BHEL) stands at the forefront of India's energy landscape, playing a pivotal role in powering the nation’s future. With its deep-rooted expertise, advanced technology, and commitment to sustainability, BHEL is not just a leader in India's power sector but also a significant contributor to the global energy market.

A Legacy of Excellence in Power Generation

Founded in 1964, BHEL is one of India's largest engineering and manufacturing companies, specializing in the design, manufacture, and supply of power generation equipment. It was set up with the goal of reducing India’s dependency on foreign countries for critical electrical equipment, and over the decades, BHEL has consistently exceeded expectations in achieving this aim. From power plants to transmission and distribution systems, BHEL’s products and services touch virtually every aspect of the energy sector.

The company manufactures a wide range of products, including boilers, turbines, generators, transformers, andswitchgear, with a strong emphasis on providing technologically advanced solutions. BHEL’s power generation equipment and systems have been installed in thermal, hydro, gas, and nuclear power plants across the country, and its projects extend to numerous international markets as well.

BHEL's Role in Expanding India's Energy Capacity

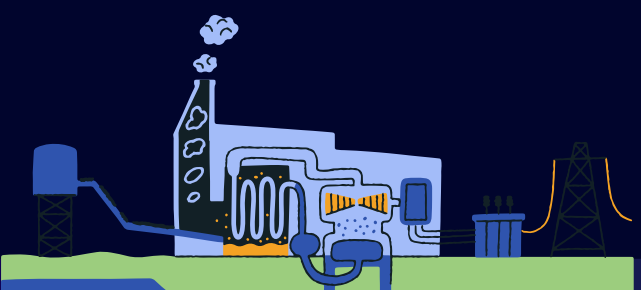
As India aspires to become a $5 trillion economy, reliable and sustainable energy is fundamental to this ambition. BHEL has been a key player in the expansion of India’s energy infrastructure, supporting the country’s goal of achieving energy security and reducing its carbon footprint.

In the thermal power sector, BHEL has been instrumental in the construction of large-scale coal-fired power plants, which form the backbone of India's energy production. The company has been involved in the development of some of the largest power plants in the country, such as the Vindhyachal Thermal Power Station and the Sipat Thermal Power Station, both of which have a significant impact on the national grid’s capacity.

Beyond thermal energy, BHEL is also a key player in renewable energy. As India makes strides toward achieving its ambitious renewable energy targets, BHEL has adapted its manufacturing capabilities to include solar power systems, wind turbines, and other renewable technologies. The company has been involved in setting up several solar power projects across the country, contributing to India's vision of achieving 500 GW of non-fossil fuel-based energy capacity by 2030.

EED 2nd Year

Vaddadi Likith Roshan



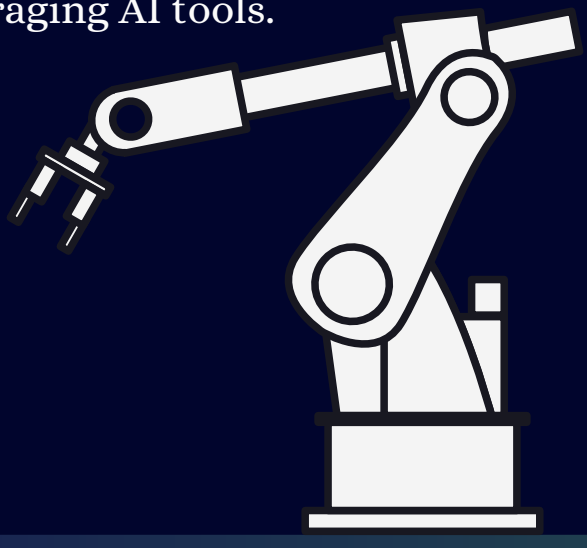
The Human Cost of AI and Robotics : Challenges and Solutions

The Challenge of Job Displacement

A study by the McKinsey Global Institute predicts that by 2030, between 400 million and 800 million employees worldwide could be displaced due to automation. Jobs that involve repetitive tasks, such as assembly line work or data entry, are particularly vulnerable. To mitigate the impact of job loss, a robust reskilling initiative is essential. Emphasizing “lifelong learning” will help individuals adapt to new roles that require creativity, emotional intelligence, and complex problem-solving—areas where humans excel compared to machines.

The Erosion of Decision-Making Skills

The reliance on AI for decision-making can lead to a decline in critical thinking abilities among humans. As people increasingly depend on technology for everyday choices—from navigation to financial decisions—they may become less adept at making independent judgments. This dependency not only affects personal autonomy but can also lead to increased anxiety when technology fails. Enhancing “digital literacy” is crucial in addressing this issue. By fostering a culture of questioning and analysis, we can ensure that individuals retain their decision-making capabilities while effectively leveraging AI tools.



3.Mental Health Implications

The rise of robotic companions and AI-driven social interactions can lead to feelings of isolation or reduced human contact. Furthermore, the pressure to keep up with rapid technological advancements can increase stress levels among workers. To combat these mental health challenge by encouraging face-to-face interactions and community engagement can help mitigate feelings of loneliness exacerbated by digital communication. Additionally, integrating mental health resources into workplaces that utilize AI can provide support for employees navigating these changes.

EED 2nd Year
Aditi Jain

Solar Power in Electric Vehicles: A Step Towards Sustainability

The integration of solar power in electric vehicles (EVs) is a groundbreaking advancement toward sustainable transportation. Solar-powered EVs use photovoltaic (PV) panels to convert sunlight into electricity, which is stored in batteries to power the vehicle. This approach not only reduces reliance on grid charging but also aligns with the global push for clean energy solutions.

Key components of solar EVs include high-efficiency solar panels, lithium-ion or solid-state batteries for energy storage, power electronics to manage energy flow, and an electric drivetrain for propulsion. Together, these components allow vehicles to harness renewable energy on the go.

Solar-powered EVs offer numerous benefits. They reduce dependency on charging infrastructure, making them ideal for remote areas. Operational costs are lower since sunlight is free, and emissions are significantly reduced, contributing to environmental sustainability. Additionally, solar panels can extend the driving range, particularly in sunny regions, enhancing the practicality of EVs.

However, challenges remain. The energy output of solar panels is limited, making it difficult to meet the energy demands of long journeys or high-speed driving. The vehicle's surface area restricts the number of panels that can be installed, and efficiency drops in cloudy or rainy weather. The initial cost of equipping vehicles with advanced solar panels and batteries can also be high.

Despite these hurdles, innovations are paving the way for solar EVs to become more feasible. Advanced lightweight and flexible solar panels, improved battery technologies, and smart energy management systems are driving the industry forward. Notable examples include the Lightyear 0 and Aptera Solar Car, which showcase how solar power can enhance range and reduce reliance on external charging.

Solar-powered EVs represent a significant step toward reducing the environmental impact of transportation. While still evolving, they hold immense potential to revolutionize mobility, combining renewable energy with electric drivetrains to create a cleaner, more sustainable future.

EED 2nd Year

Krishna Sharma

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