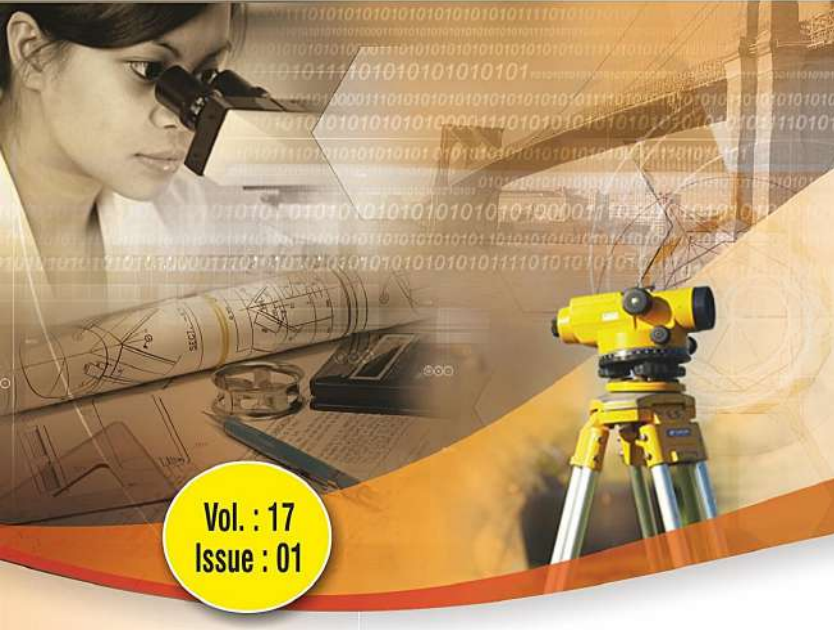

K K Wagh Education Society's
K K Wagh Institute of Engineering Education and Research, Nashik.

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TECHNICAL NEWS LETTER

76th Republic Day Celebration – "Virasat Se Vikas Tak"

The 76th Republic Day was celebrated with great enthusiasm at the K. K. Wagh Engineering Campus under the theme "Virasat Se Vikas Tak". The event was graced by Dr. K. N. Nandurkar, Principal of KKWIEER, who was the Chief Guest. Other dignitaries included Prof. P. T. Kadave (Principal, K. K. Wagh Polytechnic, Nashik), Dr. Salunke (Principal, K. K. Wagh College of Pharmacy, Nashik), and Shri. Sanjeev Ahire (P.R.O., K. K. Wagh Education Society).

The National Flag was unfurled by the Chief Guest, followed by a motivational speech emphasizing the importance of innovation, progress, and national heritage. Dr. Nandurkar encouraged students and faculty to develop innovative projects that align with the theme of the celebration. A spectacular cultural performance was presented by Nakshatranche Dene, the cultural group of the college, portraying the rich legacy and development journey of India.

Additionally, as a part of "The Wachak Pandharwada", the "Wachan Sankalp Maharashtracha" program was organized as per directions of the Government of Maharashtra & Directorate of Technical Education (D.T.E.). Students participated by reading books and sharing their insightful reviews. The best reviews were selected and the winners were felicitated by the Chief Guest:
1st Place – Ms. Rajani Pawar (F.Y. Computer)
2nd Place – Ms. Deepali Sunil Patil (S.Y. AIDS)
3rd Place (Joint Winners) – Ms. Sakshi P. Malpure (T.Y. Computer) & Ms. Samrudhi P. Narkhede (T.Y. Computer)
The event was flawlessly organized by the Department of Physical Education & Sports, with active participation from all teaching and non-teaching staff. The celebration truly reflected the spirit of unity, progress, and patriotism!

Maffick 2025

The annual social gathering, Maffick 2025, was a grand celebration held from 25th to 29th January 2025. The event was inaugurated by Dr. K. N. Nandurkar, Director of the Institute, in the presence of Deans and HODs. This year, the Institute celebrated 40 years of Excellence, with the theme "40 Years of Celebration – Honour the Past and Inspire

the Future", reflecting on its legacy while motivating students and faculty for the future. Maffick 2025 featured a vibrant lineup of cultural events, starting with Rangoli, Poster, and Sketching competitions. Students celebrated Group Day on January 25th, followed by Character Day on January 27th. The event also included Elocution and Quiz competitions, along with a special lunch. The highlight of the afternoon was the captivating musical performance, "Nakshatranche Dene," presented by students at Dr. P. C. Ray Hall. On 28th January, Traditional Day was celebrated with students dressed in vibrant ethnic attire, while NSS volunteers energized the campus with a spirited "Lezim" performance. The cultural fervor continued with Singing, Drama, Dance, Fashion Show, and the Personality Contest in a grand pendol. The final day, 29th January, featured Corporate Day and Saree Day, showcasing professionalism and cultural elegance. Chief Guest Mr. Ganesh Narayanan, CIO of Bureau Veritas, Mumbai, an alumnus of the 1996 Computer Engineering batch, graced the Prize Distribution Ceremony. This Ceremony recognized winners of cultural and top performing students in academics, along with outstanding students of the year. Mr. Siddhesh Jagtap (Electronics & Telecommunication) and Ms. Sanjita Jain (Computer Engineering) received the Best Outgoing Student awards. The event was attended by Epiroc representatives, Mr. Prakash Gore and Ms. Pallavi Pande. A proud highlight of the ceremony was the felicitation of Ms. Sanika Kulkarni a final year student from Robotics and Automation Engineering, who was honoured and offered a job by Epiroc, Nashik.

Maffick 2025

Mizuho India Japan Study Centre (MIJSC)

The meeting with Mizuho India Japan Study Centre (MIJSC) Indian Institute of Management Bangalore has been organised on 24th Jan 2025 at K K Wagh Institute of Engineering Education & Research.

A part of the outreach effort towards the Lean manufacturing Practices Program @ IIMB. Mizuho India Japan Study Centre (MIJSC) Indian Institute of Management Bangalore is a Centre of Excellence, set up to provide a deeper understanding of Japanese business and culture aspects to students, researchers, business managers and policy makers in India.

The following members were present from MIJSC:

1. Dr. Saideep Rathnam, Chief Operating Officer
2. Mr. Subodh Korde, LMP-Module Director/Industry Expert
3. Mr. Narayana Vakil, LMP- Module Director/ Industry Expert
4. Ms. Prabha Narayana, Research Associate, MIJSC
5. Mr. Akshay Rao, Research Associate, MIJSC

The meeting was attended by Dr.K.N.Nadurkar, Prof P.J. Pawar, Prof P.B.Kushare and Prof S.P Dhake.

International Conferenceon 'Engineering Innovations for a Sustainable Future'

The International Conference on 'Engineering Innovations for a Sustainable Future'was held in the institute on 6th and 7th January, 2025. The eventbrought together researchers, academicians, and industry professionals to foster dialogue and collaboration on engineering

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solutions for sustainability. The conference was inaugurated by Chief Guest Prof. Dr. S. G. Deshmukh, a distinguished academician from IIT Delhi, who delivered an insightful keynote address on "Sustainability - Reflections and Opportunities for Academia." Guests of Honour Ms. Kathrina Kolking, General Manager, Epiroc, graced the occasion, alongside Mr. Sameer Wagh, Chairman, K. K. Wagh Education Society. Prof. Dr. S. G. Deshmukh, in his keynote address emphasized the pivotal role of academia in addressing sustainability goals and fostering innovation. He highlighted the importance of adopting a systems perspective to sustainability, integrating cutting-edge technologies like blockchain, IoT, and robotics into supply chains, and aligning research and teaching with Sustainable Development Goals (SDGs). "Epiroc Pvt. Ltd and K. K. Wagh Education Society together can provide a promising platform for innovative sustainability solutions through the research forums like this conference for the betterment of the society", opinionated by Ms. Kathrina Kolking. During the conference, 60 research papers were presented in 9 parallel sessions on topics ranging from sustainable engineering solutions to innovations in renewable energy, applications of Al and deep learning for agriculture, internet of Things etc. Hands-on workshops in the AICTE ldea Lab also kicked off, offering participants a chance to explore cutting-edge technologies like 3D printing, robotics, drones, and PCB making. Online Keynote address by an expert Dr. Lalith Liyanage, Project Director, Ministry of Education, Sri Lanka, on the topic "Engineering innovations Powering a more Sustainable Future" was held on the second day of the conference.

International Conference on 'Engineering Innovations for a Sustainable Future'

NSSWinter Camp

The National Service Scheme (NSS) unit of the institute organized a seven-day special camp from 12thJanuary to 18thJanuary 2025 at Mohgaon, Taluka-Nashik. The inauguration ceremony was graced by senior environmental expert and founder of Nisarg Wari, Mr. Prashant Avchat, along with the Principal Dr. Keshav Nandurkar, Sarpanch Mrs. Surekha Tile, Gram Panchayat Member Mr. Yogesh Tile, Gram Panchayat Officer Mr. Dnyaneshwar Bhor and other esteemed villagers.This residential camp centred on the themes “Youth for My Bharat” and “Youth for Digital Literacy.” A variety of social, environmental, health and digital literacy initiatives were carried out during the camp. Students demonstrated practical applications such as e-crop inspection, online access to 7/12 records, Digi Locker usage and cyber security awareness to the villagers. Additionally, camps offering Aadhaar card services, Indian postal services and e-services were organized.In collaboration with Shri Guruji Hospital Nashik, health check-ups, anemia testing and a blood donation drive were conducted. Career guidance sessions provided valuable insights on post-HSC education options for students. Public walls in the village were adorned with traditional Warli art. Cleaning drives were also undertaken and students facilitated drip irrigation for native trees planted along the Darna riverbank.The camp featured insightful lectures by distinguished speakers, including Dr. Purushottam Puri, Mr. Ram Shinde, Mr. Vishwas Maharaj Tile and Mr. Shubham Bodke. Students identified key issues faced by the village and proposed practical solutions to address them.The concluding ceremony was graced by Mr. Deepak Bhagat, Public Relations Officer of Janjati Kalyan Ashram Nashik, as the chief guest. The event marked a successful culmination of a week filled with impactful activities that empowered villagers and fostered a sense of social responsibility among the participating students.

Inauguration of NSS Camp

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ABB Live Project Competition

K.K. Wagh Institute of Engineering Education and Research has once again secured the First Prize in the prestigious ABB Live Project Competition. This remarkable achievement highlighted the innovative spirit, teamwork, and dedication of our talented students and mentors.
The winning team consisted of:

- Yogita Jadhav (Electrical Engineering)
- Vedika Yadav (Information Technology)
- Sharayu Kakad (Mechanical Engineering)
- Ritesh Borse (Computer Science)
- Ritesh Sakhare (Electronics and Telecommunication)

A winning trophy was awarded with the hands of Mr. Shaligram, Plant Head and Vice President, BOSCH and in the presence of Mr. Ganesh Kothawade, ABB president in ABB company.The team was guidedby our college mentor, Dr. Saravanan S., and our incredible industrial mentors, Mr. Surendar S. and Mr. Bhushan Dhake.

Winners of ABB Live Project Competition

Team Nikola Racing

A proud moment for K.K. Wagh Institute of Engineering Education and Research as 'Team Nikola Racing' secured All India Rank 1 and a prize of ₹15,000 for their outstanding design at the 6th SAEISS Dr. G. Padmanabham Memorial Electric Two-Wheeler Design Challenge held from 25th to 27th January 2025 at Rajalakshmi Engineering College, Chennai. Team was guided by Faculty Advisor Prof. Ganesh N. Jadhav.

Team consisted of following students:

- Akshay Patil (SY Div B)
- Sumit Nerpagar (SY Div B)
- Siddhant Hajare (SY Div B)
- Piyush Jadhav (SY Div B)
- Raj Pawar (SY Div B)
- Saurabh Mali (SY Div B)

Team Nikola

Intercollege Squash Competition - A Dominant Performance by KKWIEER

The Intercollege Squash Competition was successfully organized by K. K. Wagh Arts, Commerce & Science & Computer Science College, Nashik at Minatai Thakare Stadium, Nashik. Our students from K. K. Wagh Institute of Engineering Education & Research (KKWIEER) showcased an outstanding performance, securing top rankings and proving their dominance in the sport. We are proud to announce that all our participating players have been selected for the Inter-Zone Squash Competition, which will be held in Pune. This remarkable achievement highlights the dedication, hard work, and sportsmanship of our students.
The winners from Team KKWIEER are:
1st Place – Sarvesh Santosh Nikam (First Year, B. Tech. Mechanical)
2nd Place – Patil Pradumnya Sunil (Third Year, B. Tech. Computer)
4th Place – Saraf Sarthak Suhas (First Year, B. Tech. AIDS)
5th Place – Chavan Tanishq Sunil (First Year, B. Tech. AIDS)
6th Place – Chaudhari Kaustubh Pravin (First Year, B. Tech. Computer)

With this incredible performance, Team KKWIEER is now leading the squash game in Nashik. Congratulations to all our players and best wishes for their upcoming Inter-Zone Squash Competition in Pune.

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KKWIEER's Prachi Shivcharan Represents at 67th National Shooting Championship!

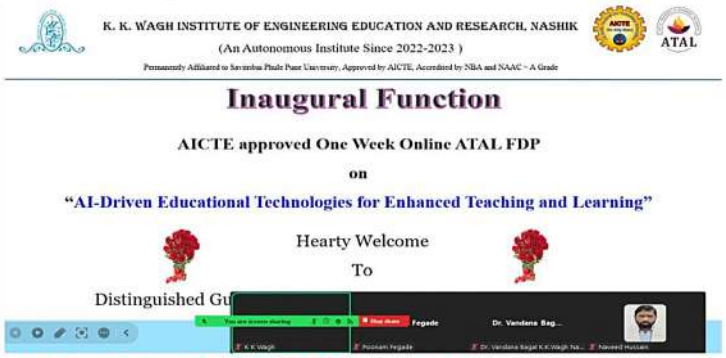
We are proud to announce that Ms. Prachi Balkrishna Shivcharan, a student of F.Y. B. Tech. Mechanical Engineering, was selected and successfully participated in the 67thNational Shooting Championship (Pistol Event) held in New Delhi. This achievement marks a significant milestone for both Prachi and KKWIEER, highlighting the college's commitment to nurturing sporting talent. Competing at a national level requires immense dedication, precision, and perseverance, and Prachi has demonstrated all these qualities with excellence.

Her journey inspires fellow students to pursue their passion for sports, proving that with the right guidance and hard work, success is inevitable.

Ms. Prachi Shivcharan

AICTE-ATAL FDP

The Department of MCA successfully organized a One-Week Online Faculty Development Program (FDP) on AI-Driven Educational Technologies for Enhanced Teaching and Learning from 20th January 2025 to 25thJanuary 2025. The program was sponsored by AICTE and aimed at equipping faculty members with knowledge of AI-driven tools and methodologies to enhance the teaching-learning experience. The FDP featured renowned experts from academia and industry, including Prof. Rajendra M. Sonar (IIT Bombay), Dr. Abhishek Patange (ABB Bengaluru), Ms. Sonal Temgire (Mastercard, Pune), Dr. Shilpa Chaudhari (M.S. Ramaiah Institute of Technology), Mr. Jayant Tripathi (AT & T, Bengaluru), and several other distinguished speakers. The experts shared valuable insights on AI applications in education, ethical AI policies, adaptive learning, and AI-driven assessments. Faculty members, research scholars, and industry professionals actively participated, engaging in interactive sessions and discussions on the latest AI advancements in education. The FDP provided a platform for knowledge exchange, skill enhancement, and future collaborations. The sessions were conducted online via Zoom, allowing participants to engage in live discussions and explore practical applications of AI in education. The FDP was coordinated by Dr. Vandana Bagal, with Ms. Archana L. Rane as the co- coordinator. Participants who successfully completed the program received the AICTE ATAL FDP Participation Certificate.



Visit of Dr. Samir Mitragotri

On 14th January 2024, Dr. Samir Mitragotri, Core Faculty of the Wyss Institute at Harvard University, USA, visited the K K Wagh Institute of Engineering Education and Research. The visit began with an interactive session involving Principals, Deans, and Heads of Institutes under the K K Wagh Education Society. Dr. Ravindra Munje introduced the guest, followed by the felicitation of Dr. Samir Mitragotri by Dr. Keshav Nandurkar. During his visit, he interacted with the students and faculty and guided for research paper writing. The Hon. Chairman of the K K Wagh Education Society, Shri. Sameer Wagh, also attended the sessions.Following the meetings, Dr. Samir Mitragotri toured several facilities, including the Training and Placement Centre, Library, Robotics Department, Workshop and AICTE IDEA Lab.

Visit of Dr. Samir Mitragotri

Visit to Idea Lab

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Visit of Mr. Dinesh Jagtap

On 24thJanuary 2024, Shri. Dinesh Jagtap, Scientific Officer of the Rajiv Gandhi Science and Technology Commission, Government of Maharashtra, visited the K K Wagh Institute of Engineering Education and Research. The visit began with an interactive session involving Principals, Deans, and Heads of Institutes under the K K Wagh Education Society. Dr. Munje, Dean R & D presented a concise overview of the R&D activities undertaken at the institute. Shri. Jagtap then guided the faculty members on the various R&D schemes available under the Rajiv Gandhi Science and Technology Commission. He offered detailed insights into these initiatives and addressed queries from the faculty. The Hon. Chairman of the K K Wagh Education Society, Shri. Sameer Wagh, also attended the session. The visit was a productive interaction that strengthened the institute's connections with the Rajiv Gandhi Science and Technology Commission, paving the way for future collaboration in research and development.

Felicitation of Mr. Dinesh Jagtap

Paris Sparsh Scheme

A meeting with representatives from colleges was held in the IQAC under the Paris Sparsh Scheme on 18th January 2025. Representatives from MMANTC College of Engineering, Malegaon, and PVG College of Engineering, Nashik, attended the meeting. During the session, guidance on NBA accreditation was provided by Dr. K. N. Nandurkar, Principal; Dr. P. D. Bhamre, Dean of IQAC; and Dr. P. J. Pawar, NBA Coordinator of the Institute.

Expert Lecture/Seminar/Courses/Workshop Organized

- The Electrical Engineering Department organized following expert lectures and career guidance sessions in January 2025:
  - ► Expert Lecture on "Engineering Innovations Powering a More Sustainable Future" by Dr. Lalith Liyanage, CEO/General Manager of the Ceylon Fisheries Corporation, Sri Lanka for TY-B students and staff of the department on 07th January 2025.
  - ► Career Guidance session on "Master Degree and PhD Programs at IIT Jodhpur" by Dr. Deepak Fulwani, and Dr. Bharat Singh, Professor at Electrical Engineering, IIT Jodhpur for TY- A students and staff of the department on 31th January 2025.
- The Electronics and Telecommunication Engineering Department organized the following informative event in January 2025:
  - ► An expert talk on Forensic and Investigation by Mrs. Dilpal Rana, Advisor at Cyber Sanskar, Nashik on 18 thJanuary 2025.
  - ► An expert talk on Workplace Readiness by Ms. Radhika Pandharkar and Ms. Kasak Makhija on 23rd January 2025.
- The Civil Engineering Department organized following expert lectures and career guidance sessions in January 2025:
  - ► Expert session on "Concrete Technology" by Mr. Rajole Nitin Kedu Technical Sales & Q.C. Head Ambuja Cements Limited, Unit–Dirk India Nashik on 10th January 2025.
  - ► Expert session on "Career Prospects for Civil Engineers to be Successful" by Er. Sameer Alone, C&M, Founder Director& CEO, Infini Institute of CPM on 17th January 2025.
- The Chemical Engineering Department organized following expert lectures and career guidance sessions in January 2025:
  - ► Ms. HetanshaBoricha (pursuing M.Tech at IIT Madras) has conducted an interactive session on "Various aspects such as Career Guidance, Placement Preparation, and Research Innovations" through Google Meet on 9th January 2025.
  - ► Dr. Ajit P. Rathod (Assistant Professor, Department of Chemical Engineering, VNIT Nagpur) has conducted an expert talk on "Development of Cenosphere Ceramic Membranes and its Applications" through Google Meet on 9th January 2025.
- The Information Technology Department organized following expert lectures and career guidance sessions in January 2025:
  - ► Expert talk on "The Visual Code: Demystifying Data with Powerful Tools" by Mr. Santosh Mundhe – A Data Experton 3rdJanuary 2025.
  - ► Expert talk on "Building Confidence and Self-Esteem" by Mrs. Tanuja Date, Ex-Associate Professor at KKWIEE&R on 13thJanuary 2025.
  - ► Online expert talk on "Use of AIML in Automotive Industry" by Mr. Ashish Apparao Gadge, Senior Software Engineer (ADAS) APTIV Components India Private Limited on 24thJanuary 2025.

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- The Robotics & Automation Engineering organized following Expert talks in January 2025:
  - ► An expert talk on "PLC Programming" by Mr. Pankaj D. Sonwane on 10th January 2025.
  - ► An Expert talk on "Sensor Technology" by Mrs. Sushma Patil on 21st January 2025.
  - ► An expert talk on "Robot operating system" by Mr. Samrat Tikole on 31st January 2025.

Expert Lecture/Seminar/Courses/Workshop Attended: -

- Computer Department faculty Prof. P. P. Vaidya attended webinar for faculty development program on 'Principles of Outcome-Based Education' on 15th January 2025.
- Mechanical Engineering Department Faculty, Dr. Vilas K. Matsagar successfully completed ATAL FDP on Recent Advancements in Solar Photovoltaic Technology and Research Opportunitiesfrom 13th to 18th January 2025.
- Electronics and Telecommunication Engineering Department faculty Dr. K. S. Holkar participated and presented Best Practices in Autonomy in the One-Day Workshop onGovernance in Autonomy: Challenges, Opportunities, and Transformational Strategies; organized by MIT Academy of Engineering, under the aegis of Savitribai Phule Pune University. Prof. K. Nirmalakumari Completed ATAL FDP on VLSI from 6th to 11thJanuary 2025. Prof. P. P. Patil completed ATAL FDP on Practical Insights into RF System Design during from 6th to 11th January 2025. Prof. S. D. Raut, Prof. R. V. Daund and Prof. N. A. Dheringe completed ATAL FDP on Next Gen in AI/ML and IoT from 6th to 11th January 2025.

Training and Placements

Sr. No.	Company Name	Department Name	Placed Students
1.	Reliance Industry Limited	Chemical Engineering	03
		Electrical Engineering	03
2.	Worley Mumbai	Chemical Engineering	01
3.	RDC Concrete	Electrical Engineering	01
4.	HSBC Technologies	Computer Engineering	03
		Information Technology	02
		AI&DS	01
5.	Tech Mahindra	Computer Engineering	11
		Information Technology	12
		Electronics & Telecommunication	02
		AI&DS	17
6.	Infosys	AI&DS	01
		Electronics & Telecommunication	02
7.	Zensar	AI&DS	01
8.	RDC Concrete	Civil Engineering	01
		Electrical Engineering	01
9.	Glatt System Pvt. Ltd.	Robotics and Automation	01
		Electrical Engineering	01
10.	Decimal Point	MBA	07
11.	Stantec	MBA	02
12.	Seva Automobile	MBA	02
13.	DMart	MBA	02
14.	Real Estate Blue	MBA	01
15.	Career Mantra	MBA	01
16.	Solace Infotech Pvt. Ltd.	MCA	01

Industrial Visits

Sr. No.	Company Name	Department	Class	Date
1	Gangapur Dam, Nashik	Civil Engineering	T.Y B.Tech Div.-B	09/01/2025
2	Gangapur Dam , Nashik	Civil Engineering	T.Y B.Tech Div.-A	11/01/2025
3	Sardar Sarovar Dam, Ekta Nagar, Gujarat	Civil Engineering	T.Y B.Tech Div.-B	24/01/2025
4	Bhatsa Dam, Shahapur	Civil Engineering	BE Div: A	24/01/2025
5	Darna Dam, Igatpuri	Civil Engineering	BE Div: B	24/01/2025

Paper Publications/Presentations:

Deep Learning Approaches for Fine-Grained Dog Breed Classification

Ms. Priti P.Vaidya, Dr.S.M.Kamalapur (Published in International Conference on Engineering Innovations for Sustainable Future (ICEISF 2025) during 6th- 7th January, 2025)

Abstract: Image classification, a key area within computer vision, involves assigning labels or categories to input images based on their content. Recent advancements in deep learning have significantly improved the accuracy of models, particularly in tasks requiring fine-grained categorization. These tasks focus on distinguishing sub-categories within broader groups, such as identifying specific dog or cat breeds, plant and bird species, or aircraft types. This study aims to develop deep convolutional neural network models capable of automatically classifying diverse biological species, such as dog breeds, from their corresponding images.

Assessing Clustering Quality in Multiview Data Using K-Means

Mrs. Jyoti R. Mankar, Dr. S. M. Kamalapur (Published in International Conference on Engineering Innovations for Sustainable Future (ICEISF 2025)during 6th- 7th January, 2025).

Abstract: Many existing systems focus on single-view clustering, where data is partitioned using just one clustering approach. However, real-world data is complex and can often be clustered in different ways depending on varying interpretations and perspectives. Incorporating multiple data sources can provide a more holistic understanding of the underlying structure and enhance clustering accuracy. Recently, there has been increasing interest in utilizing complementary and consensus information from

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multiple views. This paper specifically focuses on Multiview K-Means, a method well-suited for handling linearly separable data.

- **The power of spectral information in multispectral and hyperspectral images for remote sensing image retrieval (RSIR)**

Ms. Monali P. Mahajan, Prof. Dr. S. M. Kamalapur (Published in International Conference on Engineering Innovations for Sustainable Future (ICEISF 2025) during 6th- 7th January, 2025).

Abstract: Features of digital images are used for representing and processing images. Normal images are represented using three color values as RGB(Red Green Blue). Remote sensing image are of different types, among which multispectral and hyperspectral images have more spectral information than normal RGB images. These features are the foundation of effective image analysis, as they provide unique spectral signatures that can distinguish different materials, land covers, and phenomena. Image retrieval focuses on identifying images similar to a given query image from large archives designed for specific applications. Unlike traditional RGB images, multispectral and hyperspectral images capture a wider range of spectral bands, providing detailed information across various electromagnetic wavelengths. This rich spectral data is crucial for application-specific insights. As a result, effective retrieval from extensive archives relies heavily on understanding and utilizing the importance of spectral features. This work explores the role of spectral features in enhancing the effectiveness of the remote sensing image retrieval process.

- **Multimodal Biometric Recognition Using Face, Iris, and Fingerprint**

Ms. Sai Patil, Prof. Jyoti Mankar, Ms. Anjali Kalra, Mr. Fenil Chodavadiya, Mr. Harshvardhan Patil (Published in International Conference on Engineering Innovations for Sustainable Future (ICEISF 2025) during 6th- 7th January, 2025).

Abstract: Face detection is a critical preprocessing step for applications such as face recognition and camera auto-focusing, facing challenges from varying lighting conditions and diverse facial characteristics. This project implements a classification based face detection approach using Gabor filter features, with 5 frequencies and 8 orientation channels to extract facial details. The feature vector, derived from Gabor filters, is fed into a face/non-face classifier. A Support Vector Machine (SVM) is employed on a feature subspace reduced by Principal Component Analysis (PCA). PCA facilitates efficient processing by reducing dimensionality without losing key information, while the SVM classifier enhances accuracy in distinguishing face from non face regions. This method effectively addresses face detection challenges, demonstrating promising results in single face image scenarios and highlighting its potential for broader computer vision applications.

- **Optimization of CNN Model for Deepfake Detection**

Atharva Deore, Ashiya Ajare, Purva Phadol, Ashartha Pagar, Prof. S. S. Bhandare (Published in International Conference on Engineering Innovations for Sustainable Future (ICEISF 2025) during 6th- 7th January, 2025).

Abstract: Generative AI has brought unprecedented risks, prominently illustrated by the rise of Deep Fake videos. These AI generated videos combine "deep learning" and "fake," creating media that digitally alters a person's face or body. Deep Fakes can be exploited to spread misinformation, commit fraud, and infringe on privacy, posing significant concerns for individuals and society. Deep Fakes are hyper-realistic, synthetic media, making it increasingly difficult to distinguish between genuine and fake content, thereby intensifying threats to privacy and security. Detecting and mitigating Deep Fakes has thus become a critical focus in research. Convolutional Neural Networks (CNNs) currently stand out as effective tools for detecting Deep Fakes by identifying digital manipulation in video frames. However, as Deep Fake generation techniques advance, CNN-based detection methods face growing challenges in maintaining accuracy and reliability. This research addresses the need to optimize CNN models for Deep Fake detection. By exploring advanced optimization techniques like Particle Swarm Optimization (PSO) and various algorithms, this study aims to refine detection frameworks. The goal is to enhance CNN accuracy in detecting even the most sophisticated Deep Fakes, providing a robust defense against these evolving threats.

- **Study on partial ER fluid hybrid two-lobe hole-entry journal bearing with geneticalgorithm for bionic surface**

Dr.Prashant Kushare and Atulkumar Patil (Published in Journal: Proceedings of the Institution of Mechanical Engineers, on January 20, 2025).

Abstract: This work focuses on ER (Electrorheological) fluid-based hybrid hole-entry journal bearings, which studies the effect of ER fluid with partial electric field on the tribological nature of two-lobe bearings with bionic textured surfaces. The design of bionic textures, by virtue of their capacity to influence fluid flow, load capacity, and friction reduction for the enhancement of bearing performance, has been

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analytically investigated. The integration of ER fluid subjected to partial electric field along with bionic textured surfaces displays an optimistic improvement in performance metrics of bearings, which clearly manifests through preliminary results. Notably, the optimization of bionic textures through genetic algorithms resulted in a 13.04% reduction in friction coefficient and a significant increase in load capacity. The combination of partial ER fluid lubrication and bionic textures also improved fluid film stiffness by up to 66.11%, further enhancing stability and overall bearing efficiency. The obtained results are expected to further enhance design and development activities of high-performance hybrid journal bearings for numerous industrial applications.

- **Enhancing Mechanical Engineering Education: Leveraging Industrial Visits to Address Curriculum Gaps**

Mr. Pankaj Beldar, Dr. Prashant Kushare (Published in Journal of Engineering Education Transformations on January 2025).

Abstract: Industrial visits are essential for bridging the gap between theoretical classroom learning and practical application in mechanical engineering education. This study explores how such visits address curriculum gaps and improve learning outcomes by incorporating industry feedback, Program Outcome (PO) assessments, and aligning visit outcomes with Program Specific Outcomes (PSO). Feedback from industry stakeholders and students facilitated continuous improvement, providing insights into the practical application of theories. PO attainment calculations offered a quantitative evaluation of the visits' educational impact. Detailed visit reports served as assessment tools, reinforcing students' understanding of theoretical concepts through hands-on experiences. This approach enhances theoretical learning and helps achieve educational objectives, creating a more comprehensive and practical learning environment for mechanical engineering students.

- **Development of Sustainable Cementitious composites using Agricultural waste and Sea shells**

Dr. Yennam Rajesh, Himani Chaudhari, Shraddha Pansare (Published in International Conference On Engineering Innovation for Sustainable Future(ICEISF-2025) during 6th - 7thJanuary 2025).

Abstract: In this project, the author has used agricultural waste for the production of cementitious materials, focusing on its potential as a suitable solution in the construction industry. Agricultural residues, including corn cob, olive waste, palm oil, palm oil, groundnut shell, wheat straw, banana fibres, and sea shells are abundant and often underutilized resources that can be repurposed for cement production. By leveraging agricultural waste for cement production, authors can achieve a more sustainable, efficient, and economically viable construction industry while addressing significant environmental and waste management challenges. The agro industrial based waste provides pozzolanic property, reinforcing strength, durability, sustainability and cost effectiveness.

- **Early detection of gynaecological malignancies using ensemble deep learning models: ResNet50 and inception V3**

Chetna Vaid Kwatra, Harpreet Kaur, Monika Mangla, Arun Singh, Swapnali N. Tambe, Saiprasad Potharajud (Published in Journal: Informatics in Medicine Unlocked (Elsevier) on 25/01/2025)

Abstract: Background and objective: Improving patient outcomes and lowering death rates depend on the early identification of gynaecological cancers. This work intends to improve the accuracy and dependability of early gynaecologicaltumor diagnosis by means of a hybrid deep learning model combining ResNet50 and Inception v3 architectures. Methods: The proposed ensemble model combines multi-scale feature extraction of Inception v3 with the deep residual learning capability of ResNet50. A significant number of gynaecological images were employed for training, testing, and assessment of the proposed model. By entailing accuracy, sensitivity, specificity, and F1 score, among other parameters the performance of the model was assessed. Results: The first experiment depicted displays that the ensemble model performed better than single models with a training accuracy of 99.80 %, a validation accuracy of 99.80 %, and a test accuracy of 99.80 %. Comparing the two studies done in the current research, the model has shown to have a high sensitivity of 99 %, specificity of 99 %, and F1 score of 0.99, making it better in the identification of gynecological cancers and significantly reducing low true negatives and low true positives.

- **Smart AI Reading Application for Visually Impaired People**

Prof. Dr. Preeti Bhamre (Published in 4th

continued on page 10

International Conference on Emerging Electronics and Automation (E2A-2024)).

Abstract : The "Smart AI Reading App for Visually Impaired People" empowers visually impaired individuals by providing voice-driven access to printed materials. This innovative app uses a smartphone's camera to capture images of physical books, employing image recognition and text to-speech technologies to audibly relay the content. Unlike existing solutions, it prioritizes comprehensive voice integration and efficiency. Key features include real-time image recognition, text-to-speech conversion, guidance for accurate page alignment, and automated image capture. When users point their phone's camera at text, the app captures an image, processes it through a specialized AI, and audibly describes the content. This process allows users to instantly hear and understand their surroundings and printed material. Additional features include text summarization and a user-friendly interface tailored for visually impaired individuals. The project involves developing a functional app compatible with Android smartphones, utilizing Android app development tools, image recognition APIs, text-to-speech technology, and user interface design resources. The project team includes developers, designers, accessibility experts, and quality assurance testers. In conclusion, the "Smart AI Reading App for Visually Impaired People" leverages cutting-edge technology to enhance accessibility for the visually impaired.

Other Activities :

Heartiest Congratulations

We are thrilled to announce that Dr. Ravindra Munje, Dr. Binshati Chatterjee, Dr. Anand Kumar, and Prof. Rupali have presented their research papers at the prestigious International Conference on Engineering Innovations for Sustainable eFuture (ICEISF-2025), held from 6th to 7th January 2025 at K.K.Wagh Institute of Engineering Education & Research, Nashik.A special mention goes to Dr. Anand Kumar, whose paper was honoured with the Best Paper Award at the hands of Shri. Dinesh Musalekar CEO of Rishabh Instruments Nashik in the presence of Hon. Shri. Sameer B Wagh, Hon. Shri. Ashok Merchant and Dr. Keshav Nandurkar This remarkable achievement is a testament to the dedication and innovative spirit of our faculty members.

Heartiest Congratulations to Dr. Ashutosh Mohanty!

Mr. Ashutosh Mohanty, from the Electrical Department, completed his PhD under the supervision of Dr. Bidyadhar Rout at Veer Surendra Sai University of Technology (formerly UCE), Burla, Sambalpur, Odisha, on 20thJanuary 2025. His research focused on the topic "Some Novel Approaches to Islanding Detection in Grid-Connected Distributed Generation Systems."

Water and Soil Conservation Initiative

The NSS volunteers of institutes actively participated in a water and soil conservation initiative at Ahilya Dam, Trimbakeshwar, on 15/01/2025. The activity was conducted under the guidance of Mr. Rajendra Singh, popularly known as the 'Waterman of India,' and was organized by the Namami Goda Foundation, Nashik.

Prof. Dr. K. N. Nandurkar
PRINCIPAL