TECHNICAL NEWS LETTER

■ Installation ceremony of ISTE Student Chapter 2023–24

Core Committee of ISTE Students Chapter 2023-24

Installation ceremony of ISTE Students Chapter

The Indian Society for Technical Education (ISTE) Students' Chapter of K. K. Wagh Institute of Engineering Education and Research organized the Valedictory ceremony of Poster Making Competition 2023 and the Installation Ceremony of the ISTE Core Committee for the year 2023-24. The competition was held in a completely offline manner with participation of over 150 participants.

The competition was held under the guidance of Dr. S. S. Sane (HOD, Computer, K.K.W.I.E. E.R.). The event began with the lighting of the lamp, followed by the felicitation ceremony. The topics were inspired by the "revolutionary field of Artificial Intelligence and the recent satellite landing of Chandrayan-3 on the south pole of the moon by ISRO (Indian Space Research Organization)", which were suggested by our respected principal sir. The topics for the Poster Making Competition were:

1.   Generative AI: A Solution for Future
2.   Bharat's Drive of Exploring Space

The assessment was conducted anonymously by external judges – Ms. Apurva Jakhadi and Mr. Kiran Jagtap, based on the creativity and efforts of the participant. The evaluation process was carried out by professionals in an impartial way.

The chief guest for the day, Mr. Shekhar Paranjpe who has been the former chairman of Computer Society of India, Nashik Chapter, shared his journey through his speech with the audience. It was a delight listening to him as he shared his experience as a working professional, enlightening us about life's reality. He emphasized that the true essence of life lies in happiness and as a keen reader, he also highlighted the benefits of reading. He also gave a new meaning to ISTE, that is, 'Introspect', 'Study', 'Tenacity' and 'Excellence' and finally making us realise that the most important things in life are happiness and family.

The anchoring for the tenure completion of the senior committee 2022-23 was done by Mr. Darshan Bafna and Ms. Karishma Kotecha. The Installation Ceremony was hosted by Mr. Jai Shah and Ms. Arya Patil and speech was delivered by the senior committee. The event was hosted by Mr. Shreyas Bidwai and Ms. Devashree Pawar, and the Vote of Thanks was delivered by Ms. Mrunal Bagal.

■ Winners of Poster Making Competition for the Topic : Generative AI : A Solution for future

Prize	Name	Year	Department
1st	Pritee Salunke & Priyanka Salunke	1st	Civil
2nd	Siddhi Brahmankar & Samrudhi Pawar	2nd	AI&DS
3rd	Monali More	1st	Electrical
1st Consolation	Komal Sonawane	3rd	ENTC
2nd Consolation	Tejas Jadhav & Sakshi Nikam	2nd	Mechanical
Special Mention	Vinita Patil	1st	Computer

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■ Winners of Poster Making Competition for the Topic : Bharat's Drive of exploring Space

Prize	Name	Year	Department
1st	Mrunma iBhamre	3rd	CSD
2nd	Pornima Holkar & Shubham Suryawanshi	2nd	Robotics & Automation
3rd	Praful Sonawane & Aditya Tambe	2nd	Mechanical
1st Consolation	Pratik Kukade	1st	ENTC
2nd Consolation	Pratiksha Patil	2nd	AI&DS
Special Mention	Dhanashree Awsarkar	2nd	Chemical

■ Celebration of Education Day

Felicitation of Speaker Dr. Ashwinikumar Bhardwaj

On the occasion of "Education Day" expert lecture has been organized to staff of the institute on 20th November 2023. Speaker for the program was Dr. Ashwinikumar Bhardwaj, Bejon Desai Foundation, Nashik. He was felicitated by the hands of Prof. Dr. S. S. Sane (Dean Administration and Head of Computer Engineering, KKWIEER Nashik).

■ ATAL FDP on AI and ML organized by Mechanical Engineering

The Mechanical Engineering Department at K. K. Wagh Institute of Engineering Education and Research, Nashik-03, recently organized an AICTE Training and Learning (ATAL) Academy Initiative in the form of a Faculty Development Program (FDP). This program, held from Nov. 27, 2023, to Dec. 2, 2023, centered around the theme "Exploring Perspectives of AI and ML in Mechanical Engineering."

Mr. Arvind Mahapatra, Co-founder and CEO of Netwin Infosolutions Pvt. Ltd., Nashik, was the Chief Guest and Mr. Suchit Tiwari Founder & CEO at Cognifront was guest of Honour for the Inaugural Program. The primary objective of the FDP was to provide insights of Artificial Intelligence and Machine Learning, covering concepts, types, algorithms, techniques, and practical applications. This initiative aimed to enhance the knowledge and skills of faculty members from various academic institutions across India. Forty faculty members from various engineering institutes participated in this FDP.

Distinguished speakers from renowned institutions and industries graced the event. These included Prof. Abhishek Bhatt, Professor & Director Symbiosis Skills & Professional University Pune, Prof. ArunBalodi, Professor at DayanandSagar University, Bengaluru. Industry experts such as Dr. AbhishekPatange, Data Science & AI Specialist at ABB Pvt. Ltd., Bengaluru, Mr. Hemant Bari, Assistant General Manager at Adani Power Plant, Dahanu, and Dr. VishdeepHandikedkar, Sr. Engineer at Monorail, Mumbai, Mr. Nikhil Deore Coach, Innovation Manager, Impact Square, TCS Foundation, Nashik. Community has delivered insightful sessions on the latest technologies in AI and ML.

The coordination of this successful event was led by Prof. Dr. P B Kushare and Mr. G R Rayjade. The FDP not only served as a platform for knowledge exchange but also fostered collaborative learning and skill enhancement among the faculty members in attendance.

Participants of ATAL FDP along with Principal Dr K. N. Nandurkar

Felicitation of the Chief guest Mr. Arvind Mahapatra

■ Expert Lecture/Seminar/Courses/Workshop Organized:

- Computer engineering department has organized an expert talk on the topic "Data structures in Blockchain and Metavers", by Ms. Dhanashri Tambe - Nawale, Founder of the Startup Mind Perceptor, Metaverse on 4th November 2023 and an expert talk on "Importance of Java in Industry" by Manas Joshi, Software Developer at Perennial Systems, Pune on 8th November 2023.

- Electrical Engineering department organized Expert lecture on "Overview of the Semiconductor Industry and Career Options" by Mr. Chetan Patil, Senior Product Engineer, NXP USA Inc on 25th November 2023.

- Electronics and telecommunication department organized Three days hands on Workshop for SY B.Tech students on "Industrial Approach in Electronics" by Mr. Sanjay Chaudhari from 06/11/2023 to 08/11/202 and workshop on "Hands on practices on Computer Hardware" by Mr. Dattatray Patole on 24/11/2023.

- Chemical Engineering department has organized expert talk on "Entrepreneurship" by Mr Harsha Vardhan on 27th November 2023.

■ Expert Lecture/Seminar/Courses/Workshop Attended:

- Department of Computer engineering staff Prof. Dr. Y. D. Bhise has attended NPTELFDP on "Ethics in Engineering Practice and Research Methodology" as well as Online Course on "Design Thinking" by Great Learning Academy. Prof. Dr. S. S. Banait, Prof. P. P. Vaidya, Prof. J. R. Mankar, Prof. M. P. Mahajan and Prof. S. S. Bhandare of same department have attended Two days national level FDP on "Research Writing and application process" by NFED on 25th and 26th November 2023.

- Department of Electrical Engineering staff Prof. Nayana Jangle, Prof. Alok Kumar and Prof. Nikhil Gaikwad attended Industrial visit and PCB Manufacturing Workshop at Copper Track Industry on 06/11/2023. Same department staff Prof. Sudhir Shinde attended NPTEL- AICTE Faculty Development Program on "Ethics in Engineering Practices". Same department staff Prof. Aishwarya R. Awhad attended Faculty Development Program (FDP) on "Advanced Topics in Control systems".

- Department of Chemical engineering staff Dr. Rajashekar Ravulahas attended FDP on "Exploring Perspectives of AI and ML" organized by Department of Mechanical Engineering, KKWIEER, Nashik during 27th Nov. to 2nd Dec. 23.

- Information Technology department staff Prof. Nagama Kazzi and Prof. Yogita Algat completed FDP on "Exploring Perspectives of AI and ML" organized by Department of Mechanical Engineering, KKWIEER, Nashik during 27th Nov. to 2nd Dec. 23.

- Artificial Intelligence and data science department staff Prof. Rupal D. More attended workshop on "Next Gen Employability" of AICTE ATAL & Edunet Foundation from 20/11/23 to 24/11/23.

■ Industrial visits organized for studetns during November 2023

Sr.No.	Company Name	Department
1.	SumagoInfotech Pvt., Ltd.	BE Computer Engg.
2.	Electrical and MBA department	21st September 2022
3.	ARSS Biofuel Pvt Ltd, Wadivarhe, Nashik	SY Chemical Engg.
4	Parle Pvt. Limited, Igatpuri	BE IT

■ Congratulations !!

Mr. Atulkumar Sahebrao Patil (Assistant Professor of Mechanical Engineering) successfully completed his Ph. D. under the guidance of Dr. V. D. Wakchaure (Guide) and Dr. U. M. Shirsat (Co-Guide). Research Topic of PhD was "Tribological Investigations of Piston Ring with Surface Modifications". Degree will be granted by Savitribai Phule Pune University.

■ Congratulations !!

Information Department staffs Prof. Mrs. Rupali Bora, Prof. Nitin Dhamale, Ms. Pranjal Nankar, Mr. Pranit Menkar, Mr. Shlok Bundele and Mr. Shubham Kulkarni of BE (IT) published the patent on "Estimation of Parameters and Error Prediction for Instrument Transformer using Machine Learning".

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■ **Congratulations !!**

Mr. Saurabh Srivastava (Faculty of E&TC Engineering of KKWIEER) successfully completed his Ph. D. under the guidance of Dr. Prajna Parimita Dash. His topic of Ph.D. was "Enhanced NOMA networks for next-generation communications".Degree will be granted by Birla Institute of Technology. Ranchi.

■ **Abstracts of papers presented during November 2023**

Synthesis, characterization and adsorption studies on activated carbon adsorbent synthesized from Kigeliaafricana for removal of acid blue 113 dye from synthetic solution

Dr. Yennam Rajesh, Hetansha Boricha, Aishwarya Suryavanshi, Abhijeet Gajare, Dr. Suyog Jain, Kanchapogu Suresh

Abstract: The need for waste water treatment, which can be accomplished via adsorbents, is growing today. Adsorbents are inexpensive, environmentally responsible, and made of biodegradable materials that can be replenished. In this work, chemical activation is used to create powdered activated carbon from Kigeliaafricana. The raw material was chosen because this fruit has not been the subject of any significant research on dye removal. It is also a poisonous fruit, abundantly available in nature, has high cellulose content, carbon rich and possesses less ash content thus making it a low cost activated carbon. After activation, the surface area has increased from 5 m^2/g to 400 m^2/g, morphology studies with SEM analysis and also analyzed the functional groups with FT-IR. These properties have made our adsorbent highly efficient for dye removal. The batch adsorption studies have been carried out for the removal of acid blue 113 using various combinations of synthetic dye solution concentrations (50–300 mg/L), adsorbent dosage 0.4–7 g/L), contact time (30–300 min), and pH (2–10). The removal % efficiency and capacity (mg/g) are obtained from this work as 99.79 % and 188.89 mg/g, respectively.

■ **AI Based Novel Feature Engineering using ANN Applied on Women SES Classification**

BK Rajya Lakshmi, Savitha N. J., Saroj P. Dhake, Jyothi N. M., Hari Kumar Barri,, Manoranjan Dash

Abstract: Feature engineering is an important step in data preprocessing which helps to identify and retain only the significant features which contribute to the model learning from among large features present in the raw dataset. This reduces the unnecessary burden on the Machine Larning (ML) or Artificial Intelligence (AI) model resulting in speedy learning and improved performance efficiency. In this research, a novel AI model for feature engineering is proposed using Artificial Neural Network (ANN). A new algorithm for AI based feature engineering is developed. The developed model is applied and on the raw dataset obtained to classify the socio-economic status of women consisting of thirty features. The proposed feature engineering algorithm is applied by dividing the features into two halves and running on two different ANNs. The significance of the feature is determined by the value generated. The error values are sorted and features with the least error contribution are dropped which indicates its least significance in the dataset. The newly developed feature engineering model is very effective in classification of SES into low medium and high with 98.52% accuracy. The model is benchmarked with other public datasets and performed with a high learning rate. The model is also evaluated and validated with other machine learning algorithms and proved to be very effective in increasing the learning rate and model efficiency.

Keywords-Artificial Intelligence, Artificial Neural Network, Feature Engineering, Feature reduction

Prof. Dr. K. N. Nandurkar
PRINCIPAL