SOMAIYA VIDYAVIHAR
K J Somaiya Institute of Technology
(Formerly known as K J Somaiya Institute of Engineering & Information Technology)
An Autonomous Institute permanently affiliated to University of Mumbai.

Department of Artificial Intelligence & Data Science

TECHOTSAV

The Newsletter
June 2024 Edition

TECHOTSAV

The Newsletter
Jan 2024-June 2024

"Educate and raise the masses, and thus alone a nation is possible" -Swami Vivekananda

VISION

To be a place of academic excellence by imparting quality teaching in the field of **Artificial intelligence.**

MISSION

To render quality teaching and provide the required resources needed to acquire cutting edge professional skills.
To encourage innovation through academic and industry exposure.
To foster ethical behaviour, team work skills and soft skills required for a successful professional life.

NEWSLETTER COMMITEE
StudentTeam
Bhavormi Somaiya **Namitha Prakash** **Heer Panchal**
Haritakshi Trivedi **Swar Chaudhary** **Jhalak Dedhia**
Kinjal Panchal **Avani Dange**

H.O.D Message

Dear Techotsav Community,

Dr. Milind Nemade,
Head of Department
(AI-DS)

We are delighted to bring you the latest edition of the "TECHOTSAV" Newsletter of Department of AI-DS for the period Jan - June 2024, your go - to source for all things technology and innovation. As the world continues to evolve at an unprecedented pace , it is essential to stay informed and up-to-date with the latest advancements in the tech industry.

In this edition, we have curated a collection of insightful articles, student and faculty achievements. Whether you are a tech enthusiast, an industry professional, or simply curious about the future, this newsletter aims to provide you with valuable insights and trends.

Our AI-DS Dept. student team and faculty in-charge have worked tirelessly to bring you the most relevant and engaging content, shedding light on theprofound impact of technology on various aspects of our lives.
As always , we value your feedback and encourage you to share your thoughts, suggestions, and ideas. Your active participation in this vibrant community is what makes TECHOTSAV truly special, and we are excited to continue this journey of exploration and discovery together.

Thank you for being a part of the TECHOTSAV community , and we hope you enjoy this edition ofthe newsletter!

Best regards,

Dr. Milind Nemade,
Head and Professor AI-DS
KJSIT Sion, Mumbai.

Newsletter Incharge Message

Dear Readers,

Prof. Sheetal Jagtap,
Newsletter incharge
(AI-DS)

It is with great pleasure and enthusiasm that we present to you the latest edition of our AI&DS department Newsletter " Techotsav". Within these pages, we aim to capture the essence of our vibrant and dynamic students, showcasing the remarkable achievements and insightful perspectives that define our department..

Our vision extends beyond traditional classroom education , as we strive to create an environment that fosters creativity , critical thinking , and a passion for lifelong learning. Through a wide range of programs , initiatives, and opportunities, we empower our students to push boundaries, embrace challenges, and shape a future that is both technologically advanced and socially r esponsible. In this edition, you will find an assortment of articles, achievements, and feature stories that highlight the exceptional accomplishments of our students and faculty.

We would like to express our heartfelt appreciation to the entire editorial team for their tireless efforts in bringing this newsletter to life.Lastly, we extend our gratitude to all our readers, including students, faculty, staff, parents, and alum, for your continued support and involvement.

Best regards,

Mrs.Sheetal G. Jagtap
Newsletter In-Charge,
Department of AI & DS , KJSIT.

INITIATIVES

Academic Counseling: Mission Career

On January 11, 2024, a guest lecture on the topic of "Study Abroad by Mission Career" was organized at the IT Seminar Hall of K.J. Somaiya Institute of Technology (KJSIT). The audience for this event comprised students from the second year, third year, and final year of the Artificial Intelligence and Data Science (AIDS) program. The lecture was meticulously planned and executed by Prof. Sejal Shah and Prof. Sheetal Jagtap.

The session aimed to provide students with valuable insights into opportunities for studying abroad, facilitated by the organization "Mission Career." It covered various aspects such as application processes, scholarship opportunities, cultural adaptation, and career prospects post-study.

Fig: banner of the event

This initiative was part of the institute's broader efforts to equip students with global exposure and prepare them for international educational and professional environments.

The speaker, Gautam Umashankar, has been with Mission Career for nine years. Before that, he worked at Tata Consultancy Services (TCS) for four years and Tech Mahindra for three years. His lecture drew from his extensive experience, helping students make informed decisions about their futures.

Fig: guest lecture at IT seminar hall

Industrial Visit: Reliance Corporate Park (RCP)

On March 19, 2024, the AI and Data Science Department of K.J. Somaiya Institute of Engineering and Information Technology organized an industrial visit to Reliance Corporate Park, Ghansoli. Forty students, guided by faculty members and Reliance's Research and Learning Coordinators Mr. Manish Athalye and Mr. Amey Gawade, explored the latest 5G technologies and AI applications in telecom.

Fig: group at 5G experience complex

The visit included discussions on 5G applications and job prospects with Vice President Mr. Saurabh Srivastava, a tour of Jio's workstations, and impressive AI demonstrations. It concluded with a tour of Reliance Lake, inspiring students to seek internships at Reliance Corporate Park (RCP) and explore dynamic telecom career opportunities.

INITIATIVES

Exploring the Synergy of AI and IoT: Practical

On April 10, 2024, a group of third-year AI and Data Science students from K J Somaiya Institute of Technology, accompanied by Prof. Pankaj Deshmukh, visited Grok Technologies Ltd in Sion. The purpose of the visit was to gain practical insights into the applications of IoT across different sectors and to explore the integration of AI with IoT technologies. The visit comprised several highlights that provided students with a comprehensive understanding of the practical implementations of IoT and AI technologies:

1. Healthcare Applications:
The students were introduced to AI-powered IoT devices designed for remote monitoring of vital signs.
2. Home Automation:
Grok Technologies showcased a range of smart home devices aimed at enhancing convenience and efficiency.
3.

Fig: Students at Grog Technologies Ltd.

3. Road Safety Solutions:
The company demonstrated IoT systems for real-time traffic monitoring and hazard prediction.
4. Color Classification Models:
The students were introduced to AI algorithms used for color classification in various industries such as fashion and manufacturing.
technologies.

Fig: Visit to Grok Technologies Ltd.

5. AI-IoT Projects:
Exploring innovative projects like plant health monitoring and camera-based automatic door systems, students observed the seamless synergy between AI and IoT technologies.

The visit provided students with valuable insights into the integration of AI and IoT technologies and their applications across diverse sectors. They gained a deeper understanding of emerging trends and the transformative potential of these technologies.

The visit to Grok Technologies Ltd was highly informative and enriching for the third-year AI and Data Science students from K J Somaiya Institute of Technology. It provided them with a holistic view of IoT applications across various sectors and underscored the significance of AI in enhancing the functionality and efficiency of IoT systems. The insights gained from the visit will undoubtedly guide students in their academic pursuits and future professional endeavors in the rapidly evolving field of technology.

INITIATIVES

Seminar on "Effective Paper Writting"

In today's tech-driven world, effective paper writing is crucial for clear communication, critical thinking, and professional credibility. It ensures that ideas are conveyed precisely and persuasively, essential for success in both academic and professional settings. For this very reason it becomes of utmost importance to inculcate effective paper writting skills in university studens. One of our esteemed faculty member, Mrs.Swati Nandusekar has organized a worthwhile seminar on "Effective Paper Writing" on March 22, 2024, at 10:30am.All students and faculty members from the Artificial Intelligence and Data Science were welcommed to attend this productive seminar. Attendees had the opportunity to learn best practices, ask questions, and engage in discussions that will enhance their writing abilities.

Fig: Attendees of the Seminar

The event had featured Dr. Mansi, the Head of the Electronics and Computer Department at Pillai HOC College of Engineering, Rasayani, as the resource person. Dr. Mansi, known for her expertise and extensive experience in the field, covered essential aspects such as structuring a paper, developing a strong thesis, and effectively presenting research findings.The event underscores the commitment to fostering academic excellence and equipping students with the necessary tools to excel in their

Fig: Seminar On "Effective Paper Writting

Visit to the e-yantra Symposium

The e-Yantra Symposium is a national event that brings together researchers, educators, incubators, industry experts, and students to explore innovative approaches to embedded systems, design thinking, robotics and automation. It is an important event in the diary of e-Yantra faculty and students.On 5th April, 2024 students of SY-AIDS visited the e-Yantra Symposium (eYS 2024), IIT Mumbai. Prof. Sarika Mane and Prof. Sejal Shah coordinated this visit.A variety of engagements, such as panel discussions, lightning talks by IITB faculty, lab visits, poster presentations and exhibition of cutting-edge technologies, contributes to a holistic experience for attendees.

Fig: SY-AIDS visit at the e-Yanta Symposium.

ACHIEVEMENTS

Patent Granted for Low-Cost Water-Saving Urinal System

On March 8, 2024, Dr. Milind Nemade and Shashank Karan were granted a patent for their invention, the "Low-Cost Automated Urinal Water Flush System for Water Conservation." This system automates urinal flushing to optimize water usage, reducing waste without compromising hygiene. It uses cost-effective technology to flush only when necessary, addressing global water scarcity and promoting sustainable resource management. This invention offers a practical and economical solution for public and private restrooms, contributing to environmental conservation while maintaining convenience and cleanliness. The patent highlights the system's potential to significantly reduce water usage in restrooms, marking an important advancement in water conservation technology.

INTELLECTUAL PROPERTY INDIA

पेटेंट कार्यालय,भारत सरकार
पेटेंट प्रमाण पत्र
(पेटेंट नियमावली का नियम 74)

The Patent Office, Government Of India
Patent Certificate
(Rule 74 of The Patents Rules)

पेटेंट सं. / Patent No. : 522257
आवेदन सं. / Application No. : 201921008860
जाइल करने की तारीख / Date of Filing : 07/03/2019
पेटेंटी / Patentee : 1.MR. SHASHANK SUNILKUMAR KARAN 2.MR. SUMIT SURESH CHAURASIA 3.MR. KEDAR NARESH DAVATE 4.DR. MILIND UTTAM NEMADE

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित *LOW COST AUTOMATED URINAL WATER FLUSH SYSTEM FOR WATER CONSERVATION* नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख मार्च 2019 के सातवें दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled *LOW COST AUTOMATED URINAL WATER FLUSH SYSTEM FOR WATER CONSERVATION* as disclosed in the above mentioned application for the term of 20 years from the 7th day of March 2019 in accordance with the provisions of the Patents Act,1970.

अनुदान की तारीख / Date of Grant : 08/03/2024

Controller of Patents

Fig: Patent Granted for Low-Cost Automated Urinal Water Flush System

Startup - "RickShare

Fig: RickShare

RickShare, launched on April 10, 2024, by SY-AIDS students Arya Gami, Rahul Dhanak, Khush Chheda, and Durgesh Kumar Dubey, aims to revolutionize auto rickshaw travel. Developed in the AI-DS department, the app connects three passengers for shared rides via a ping system and in-app chat, ensuring convenient coordination. It offers shared fares for cheaper journeys, increases passenger capacity for drivers, and promotes a greener environment by reducing solo rides. Although details on app availability, payment, and driver connections are unclear, RickShare's emphasis on convenience, affordability, and efficiency demonstrates the innovative spirit and technical skill of its creators.

Fig: Startup - "RickShare

ACHIEVEMENTS

"LY-AI-DS Duo Aces SSB Exam, Awaits IAF

Anish Naik and Mohit Patel, students of the LY-AI-DS program, recently cleared the challenging Services Selection Board (SSB) exam for admission into the Indian Air Force. The SSB exam rigorously evaluates candidates on psychological aptitude, physical fitness, and leadership qualities through various stages like intelligence tests, group discussions, personal interviews, and physical assessments. Both Anish and Mohit are now gearing up for their final interview in September, which will determine their suitability and readiness for a career in the Indian Air Force.

Fig: Indian Air Force

INTECH 2K24

At the 11th National Level Poster cum Project Competition - INTECH 2K24, held on April 6, 2024, and organized by KJSIT with The IET Mumbai Local Network, 360 groups participated, including 35 groups from various colleges. In the Mini/Minor projects category, SY-AIDS students Adrita Banerjee, Jhalak Dedhia, and Avani Dange secured the Runner-up prize worth Rs. 5000/- for their project "VocabVoyage - Sailing through Synonyms."

Fig: FelicitationOf Winners

VocabVoyage empowers GRE students with a tailored vocabulary-building experience, featuring curated GRE-level words, interactive challenges, and gamified elements. The platform adapts to individual strengths and weaknesses, providing dynamic learning paths and contextual examples from GRE experts. Spaced repetition algorithms ensure knowledge retention. With personalized progress tracking, interactive quizzes, and an appealing UI, VocabVoyage makes GRE preparation enjoyable and effective.

ACHIEVEMENTS

Prestigious 2024 Ideal Teacher Award Announced

Dr. Vaishali Wadhe has been honored with the Ideal Teacher Mumbai Award-2024 by the Swarajya Welfare Association on 30th March 2024. This prestigious accolade recognizes her exceptional dedication, innovative teaching methods, and significant contributions to the field of education. Dr. Wadhe's commitment to fostering a positive and inclusive learning environment has set her apart as an exemplary educator.

Dr. Wadhe joined the institute as an Assistant Professor in 2005 after serving as a Lecturer at Government Polytec Mumbai. Dr. Wadhe earned her Master's degree in Electronics Engineering from the Government College of Engineering.

Fig: Dr. Vaishali Wadhe receiving the Ideal Teacher Mumbai Award-2024

Beyond her academic achievements, Dr. Wadhe is dedicated to social causes, advocating for the rights and security of underprivileged people. She has been recognized with several awards, including the ""Star Maharashtra Award-2018," "Chairman's Award of Best Research Publications" for 2014, "Samaj Ratna" in 2007, and "Samaj Bhushan." in 2007 for her work towards the welfare of the underprivileged.

Receiving the Ideal Teacher Mumbai Award-2024 is a testament to Dr. Wadhe's unwavering dedication to education and her relentless pursuit of excellence. This award, the Ideal Teacher Mumbai Award-2024.

Trailblazers in GATE: Leading Achievers from Our Department

We are thrilled to announce a momentous triumph for our department Mr. Sriram Dharmarajan, a distinguished member of our AI-DS family at LY-AIDS, has astounded us all with his exceptional performance in the GATE Exam 2023-24 for Data Science and Artificial Intelligence (AI-DS). Securing an outstanding All India Rank (AIR) of 3165, Sriram has truly embodied the dedication and excellence that define us.

Fig: Sriram's image, embodying GATE success in 2023-2024

In a significant development this year, our department witnessed a milestone:the inclusion of a dedicated syllabus for Artificial Intelligence and Data Science (AI-DS) in the GATE Exam. The AI-DS syllabus encompasses a wide array of topics, including machine learning, data mining, natural language processing, and more.

Sriram's remarkable achievement not only highlights his individual brilliance but also underscores the effectiveness of our curriculum in preparing students for the challenges of tomorrow. As we celebrate Sriram's success, we are invigorated in our resolve to further elevate our department's stature in AI-DS education. Congratulations, Sriram, on this well-deserved accolade!

ACHIEVEMENTS

Shivam Singh Tops NPTEL Data Science Exam

Shivam Singh, a dedicated third-year student from the Artificial Intelligence and Data Science (AI-DS) Department, has recently achieved an outstanding milestone in his academic journey. His exceptional performance in the NPTEL exam, titled "Data Science for Engineers," conducted on March 23, 2024, has placed him among the top 1% of participants nationwide. This prestigious accomplishment not only reflects his hard work and dedication to his studies but also highlights the rigorous academic environment of the AI-DS Department.

Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

SHIVAM SANTOSH SINGH

for successfully completing the course

Data Science for Engineers

with a consolidated score of 95 %

Online Assignments	25/25	Proctored Exam	69.74/75

Total number of candidates certified in this course: 2868

Prof. Devendra Jalihal, Chairperson, Centre for Outreach and Digital Education, IITM

Jan-Mar 2024 (8 week course)

Prof. Andrew Thangaraj, NPTEL Coordinator, IIT Madras

Indian Institute of Technology Madras

swayam

Roll No: NPTEL24CS53S650301600 To verify the certificate No. of credits recommended: 2 or 3

Fig: NPTEL Certificate of Shivam Singh

The NPTEL (National Programme on Technology Enhanced Learning) exam is known for its challenging curriculum and high standards, making Shivam's success even more commendable. By excelling in this competitive exam, Shivam has demonstrated a deep understanding of data science principles and engineering applications, setting a high benchmark for his peers. His achievement is a testament to his commitment to mastering complex subjects and his ability to apply theoretical knowledge to practical problems.

Shivam's accomplishment has brought pride to his department and serves as an inspiration to fellow students. As he continues his education, Shivam's success in the NPTEL exam will undoubtedly serve as a strong foundation for future endeavors in the field of artificial intelligence and data science.

Rhutuja Vispute Lands Coveted Data Engineer

Fig: Rhutuja Vispute

Rhutuja Vispute, a talented final-year student, has successfully secured a prestigious placement at IDFC First Bank. She will be joining the organization as an Associate Data Engineer, a role that underscores her exceptional skills and knowledge in the field. This significant achievement comes with an impressive compensation package, offering a Cost to Company (CTC) of 12 lakh per annum.

Rhutuja's journey to this remarkable placement is a testament to her hard work, dedication, and the comprehensive education she has received throughout her academic career. Her new role at IDFC First Bank will involve working on cutting-edge data engineering projects, contributing to the bank's mission to leverage data for strategic decision-making and innovative solutions.

As she embarks on this exciting new chapter in her career, Rhutuja's achievement will undoubtedly inspire her peers and future students to strive for excellence and pursue their professional goals with determination and confidence.

ACHIEVEMENTS

AI-DS Departments Shine: Triumph at SCORE AND SURGE Festival with Best Department Trophy

On March 16, 2024, the AI-DS and EXTC Departments received the Best Department Trophy at SCORE AND SURGE, the college's annual festival. This award recognized their outstanding performance across multiple events, showcasing the dedication and talent of both students and faculty.

Fig: AI-DS Department Receiving a trophy

The AI-DS and EXTC Departments excelled in technical presentations, sports, and cultural performances, demonstrating their commitment to excellence. Dr. Milind Nemade, Head of the AI-DS Department, accepted the trophy from Principal Dr. Vivek Sunnapawar, expressing gratitude to everyone involved.

Fig: AI-DS Students celebra□ng their win

The ceremony, attended by students, faculty, and guests, celebrated the departments' accomplishments and set a high standard for future competitions.

Launch of "Mansik Shakti" App: Empowering Students for Self-Assessment

We are extremely delighted and proud to announce the successful launch of our app "Mansik Shakti - An App for Self-Assessment using Psychometric Tests" by our Honorable Governor of Maharashtra - Shri Ramesh Bais, on 9.05.2024 at Raj Bhavan, Mumbai. The new initiative enables students to screen their own problems and decide about seeking help through an app and a website. This work is the outcome of a collaborative research done by the department of Artificial Intelligence and Data Science of K J Somaiya Institute of Technology and Dr. Amresh Srivastava, Director of Mansik Shakti Foundation and Professor of Psychiatry at Western University, Canada.
The team members from our college are:

1. Dr. Milind Nemade
2. Prof. Sheetal Jagtap
3. Harsh Mange
4. Janak Limbachia
5. Netra Shukla

Fig:Dignitaries at "Mansik Shak□" App Launch

Our team includes Dr. Milind Nemade, Prof. Sheetal Jagtap, Harsh Mange, Janak Limbachia, and Netra Shukla. Present at the launch were Mr. Govind Swarup, Ujwala Amresh Shrivastava, Prof. Dinesh Kumar, Dr. Amresh Shrivastava, Prof. Nilesh Shah, and Sheetal Jagtap.

READERS SECTION

The Future of AI in Sustainable Finance: Transforming Emission Estimation

As climate change intensifies, businesses and financial institutions must align with sustainability goals, particularly SDG 13, which focuses on combating climate change. A significant challenge is addressing supply chain emissions, which account for over 90% of total emissions inventories.

In the financial sector, these "financed emissions" from lending and investments are difficult to track due to the complexity of gathering data from numerous suppliers. However, advanced AI technologies promise to revolutionize this process. A novel emission estimation framework using a Large Language Model (LLM) can dramatically accelerate the assessment of these emissions.

This framework leverages financial activities as proxies, with LLMs classifying activities into asset classes per the Partnership for Carbon Accounting Financials (PCAF) standard. Investments are mapped to industry categories, using spend-based emission factors to calculate emissions.

Early findings show that the LLM-based approach outperforms traditional text classification models like TF-IDF, word2Vec, and Zero-shot learning, matching the accuracy of subject matter experts and significantly speeding up the assessment process.

The future implications are profound. With AI-driven frameworks providing more accurate and rapid emission estimates, financial institutions can better align their portfolios with sustainability goals, supporting global efforts to reduce greenhouse gas emissions and mitigate climate change impacts.

In conclusion, integrating advanced AI technologies into emission estimation marks a crucial step in sustainable finance. By improving the accuracy and efficiency of assessments, financial institutions can make more informed decisions, contributing to a more sustainable and resilient global economy. As AI advances, its role in transforming sustainable finance will only grow, fostering a future where financial practices align seamlessly with environmental stewardship.

-Ansh Lad
SY AI-DS

READERS SECTION

Nurturing Ethical Compasses in the Age of AI

In today's digital landscape, artificial intelligence (AI) stands as a powerful force shaping the world around us. However, with this power comes the responsibility to ensure that AI systems operate ethically and align with our values as a society.

AI ethics, a burgeoning field at the intersection of technology and morality, demands our attention and engagement. It prompts us to ask critical questions: How can we prevent bias from seeping into AI algorithms? Who should be held accountable when AI systems make errors or display unethical behavior? How can we ensure transparency in AI decision-making processes? And what measures should be implemented to safeguard individuals' privacy in an increasingly data-driven world?

As students and future leaders in various fields, it is paramount that we grapple with these ethical dilemmas and strive to integrate ethical considerations into the development and deployment of AI technologies. By cultivating an awareness of the ethical implications of AI and engaging in thoughtful discourse, we can contribute to the responsible use of AI and help shape a future where technology serves humanity's best interests.

Through education, collaboration, and a commitment to ethical principles, we can navigate the complex terrain of AI ethics and pave the way for a more equitable and sustainable digital future. Let us seize this opportunity to harness the potential of AI for the greater good while upholding the values that define us as ethical individuals and conscientious global citizens.

-Prof Vidya Sagvekar
Department of Artificial Intelligence and Data Science