Department of Artificial Intelligence & Data Science

TECHOTSAV

The Newsletter
Dec 2024 Edition

TECHOTSAV

"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
Student Team

Bhavormi Somaiya   Namitha Prakash   Jhalak Dedhia
Heer Panchal   Kinjal Panchal   Avani Dange
Haritakshi Trivedi   Swar Chaudhary

H.O.D Message

ARTIFICIAL INTELLIGENCE & DATA SCIENCE

Dear Techotsav Community,

We are delighted to bring you the latest edition of the "TECHOTSAV" Newsletter of Department of AI-DS for the period July - Dec 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.

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

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

ARTIFICIAL INTELLIGENCE & DATA SCIENCE

Dear Readers,

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.

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

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

Exploring AI applications in Banking and Healthcare

The Faculty Development Program (FDP) on AI Applications in Banking and Healthcare Industry was held from 12th to 18th December 2024. Organized in collaboration with KLE Technological University, Chaitanya Bharathi Institute of Technology, K.J. Somaiya Institute of Technology, and Adhiyamaan College of Engineering, this five-day online program explored the transformative potential of AI in banking and healthcare. It provided a platform for faculty members to gain insights on AI technologies and their real-time applications.
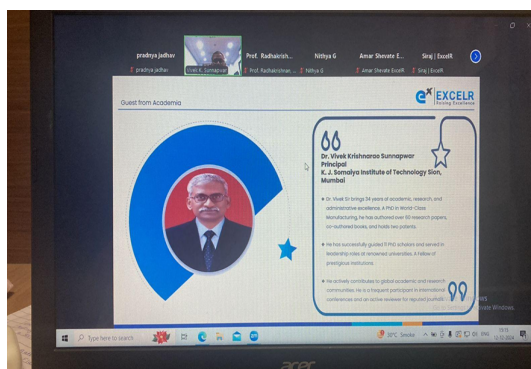

Fig: Faculty Department Program

Fig: A Glimpse of the online program

Poster Presentation Competition

The Department of Artificial Intelligence and Data Science at K.J. Somaiya Institute of Technology hosted a Poster Presentation Competition on 13th November 2024. Students showcased their inovative ideas and research in AI and data science.

Fig: Poster Presentation Competition

Through posters, students where able to display their ideas in the form of flowcharts and images. This event proved to be successful with student's active participation and support from faculty, fostering a creative learning environment.

Webinar on- "An Overview of AI and the Process to Identify Use Cases"

The Society for Data Science (S4DS), in collaboration with IEEE TEMS, hosted a webinar on November 14, led by Hemant Selmokar from Infosys. Titled "An Overview of AI and the Process to Identify Use Cases," the session covered AI fundamentals, use-case strategies, and practical applications in industries like finance, healthcare, and retail. With 175 registrations and 75+ attendees, the event provided actionable insights and included an engaging Q&A session.
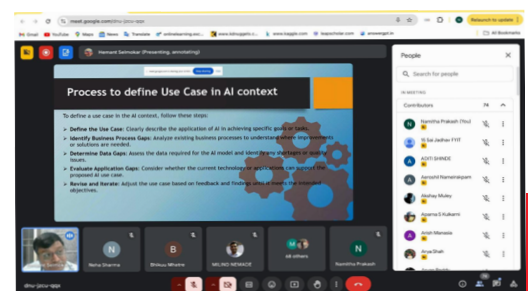

Fig: Webinar led by Hemant Selmonkar

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INITIATIVES

Robotics Training Workshop – August 2024

The AIDS Department of K J Somaiya Institute of Technology successfully conducted an engaging Robotics Training Workshop at Sameerwadi on the 29th and 30th of August 2024.

Fig: Robotics Training Workshop at Sameerwadi

Mastering GenAI: A Workshop on Tools, Techniques, and Applications at KJSIT

On October 16, 2024, the Department of Artificial Intelligence and Data Science at K J Somaiya Institute of Technology (KJSIT), Sion, Mumbai, hosted a workshop titled "Mastering GenAI: Tools, Techniques & Applications." Conducted by industry experts from Tata Consultancy Services (TCS) — Mr. Akhil Hada, Director of Data Science; Mr. Bharatkumar Patel, Enterprise Architect; and Mr. Sudeep Nair, Delivery Partner — the session provided hands-on training in advanced Generative AI tools and their applications. Participants explored practical use cases across industries like healthcare, finance, and media, gaining valuable insights into the technology's transformative potential. The workshop aimed to bridge the gap between academia and industry by equipping attendees with future-ready skills while offering networking opportunities with seasoned professionals. This initiative reinforced KJSIT's commitment to fostering innovation and preparing students for the evolving demands of an AI-driven future.

Fig: Workshop on "Mastering GenAI"

Flutter Innovators: A Comprehensive Internship Program on Mobile App Development at KJSIT

The Department of Artificial Intelligence and Data Science at KJSIT, in collaboration with S4DS and IIIC, hosted the "Flutter Innovators: 40-Hour Internship Program on Mobile App Development" on December 14, 15, 21, and 22, 2024. Led by Mr. Sushant Waghulde, Senior Flutter Developer at Zokudo, the program offered hands-on training in Flutter, covering UI/UX design, API integration, and app development. Participants gained 40 hours of project-based experience, equipping them with in-demand technical skills for careers in mobile app development, reflecting KJSIT's commitment to industry-relevant education.

Fig: 40 hours Flutter Internship Program

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INITIATIVES

TCS Accreditation Visit

On 13th August 2024, the Department successfully hosted the TCS Priority Institute Accreditation process. This significant event marked an evaluation of our department's academic standards, infrastructure, and industry readiness. The process aimed to strengthen ties with TCS, showcasing our commitment to producing industry-ready graduates equipped with cutting-edge skills and knowledge. Faculty members and staff actively participated, ensuring a smooth and impactful accreditation proces

Fig: Committee from TCS

Entrepreneurship Workshop

Department Of Artificial Intelligence & Data Science, in association with the Institution's Innovation Council, organizes a workshop on "Entrepreneurship –How to Start and Essential steps towards Entrepreneurship" on 14th August,2024 at 3.10 to 5.10 Wednesday. Resource Personage was Mr. Kashyap Kotak Co-founder and CEO from QUIXILINX LLP.

Fig: Workshop on Enterpreneurship

Prototype Validation Webinar

The Institution's Innovation Cell (IIC) of K J Somaiya Institute of Technology (KJSIT) organized a Webinar "Prototype Validation". The initiative is organized on behalf of MHRD. The session was coordinated by Mrs. Sejal Shah of the Department of Artificial Intelligence Data Science on 2nd August 2024, Friday from 6:30 - 8:00 pm. Mr. Rahul Naval Baviskar, StartUp India Mentor was the resource speaker for the occasion.
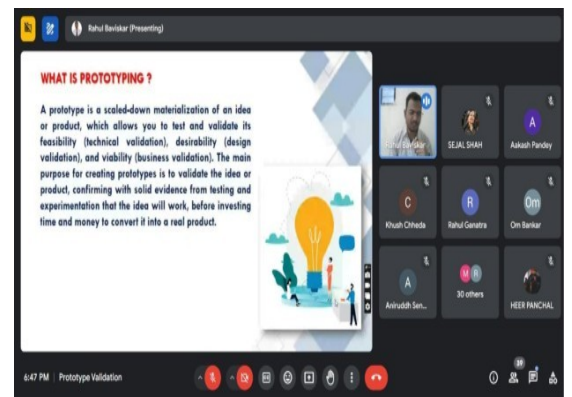

Fig: Prototype Validation Webinar

Power BI Hands-On Session

A guest lecture on "Hands-On Session on Power BI" was held on 28th September 2024 for LY-AIDS students. The session was conducted by Mr. Ashish Kharatmol from Celeble Technologies, Pune. Students were given practical training on Power BI, learning key features and applications of the tool.
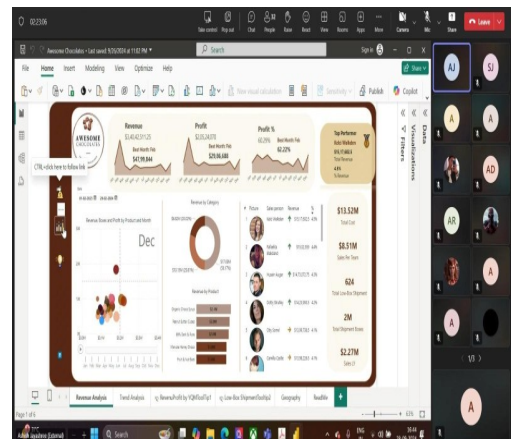

Fig: Power BI Workshop

ACHIEVEMENTS

Revolutionizing Mental Health: A Celebration of Student Innovation

The Mansik Shakti Foundation, known for its efforts in promoting mental well-being, recognized and honored the remarkable contributions of three talented students—Netra Shukla, Janak Limbachiya, and Harsh Mange—from the final year of the AI & DS department. The students were celebrated for their innovative project, "Mansik Shakti: An App for Self-Assessment Using Psychometric Tests," which aims to revolutionize mental health assessment through technology. The event, held on July 19, 2024, was a momentous occasion, further enriched by the presence of Dr. Amresh Shrivastava, a distinguished representative of the Mansik Shakti Foundation, who commended the students' dedication and ingenuity. The program was skillfully coordinated by Mrs. Sheetal Jagtap, whose efforts ensured the success of the event. This recognition not only highlights the students' excellence in combining artificial intelligence with mental health solutions but also underscores the department's commitment to fostering innovation and societal impact..

Fig: Team of this event

Turning Creative Vision into a Thriving Business

On 17th October, the Society for Data Science at K. J. Somaiya Institute of Technology, in collaboration with Kopper Flame Studio, hosted an insightful webinar focusing on entrepreneurship.

Fig: Creative Business Strategies Webinar

This event was designed to provide attendees with a deep dive into innovative business strategies within creative fields, such as videography, web design, branding, and related domains. The webinar featured prominent speakers including Nevil Parekh, Jaivik Mistry, Tanushree Hajare, and Apoorva Borhade, each bringing a wealth of experience and expertise.

During the session, the speakers shared practical insights into what it takes to build a successful business venture. They discussed key aspects of entrepreneurship, such as identifying market opportunities, leveraging creative skills to stand out in competitive markets, and effective branding techniques. The panel also explored how to navigate challenges in the early stages of a business and provided actionable strategies for growth and sustainability.

The speakers emphasized the importance of innovation and adaptability in the ever-evolving landscape of creative industries. They highlighted real-world examples from their journeys, illustrating how creative thinking and strategic planning can turn an idea into a successful business. This inspired the attendees, particularly aspiring entrepreneurs, to take the leap and transform their ideas into thriving businesses.

ACHIEVEMENTS

Innovations in Soil Health Using AI

We are proud to share that Dr. Vaishali Wadhe, faculty in the Artificial Intelligence and Data Science (AIDS) department, had her research paper, "Soil Health-Based CropSense Using Artificial Intelligence", accepted for presentation at the POSTER session of the Global Soils Conference 2024. The event, themed "Caring Soils Beyond Food Security: Climate Change Mitigation & Ecosystem Services," was organized by the Indian Society of Soil Science and held from November 19-22, 2024, at the National Agricultural Science Centre Complex, New Delhi.

Fig: Dr. Wadhe at Global Soils Conference

This achievement highlights the cutting-edge research at our institution in sustainable agriculture and climate resilience. Dr. Wadhe's work showcases how artificial intelligence can revolutionize soil health management, addressing critical challenges in food security and ecosystem services.

Edge AI Technology Wins at Aavishkar 2024

Our final-year B.Tech students, Devang Wangde, Chaitanya Mule, and Dweep Vartak, from the Department of Artificial Intelligence and Data Science, secured Silver Medals in the 19th Aavishkar Research Convention organized by the University of Mumbai.

Fig: Edge AI team receive their Silver Medals

Their project, "Edge AI-based Assistive Technology for Visually Impaired Individuals," was recognized in the Medicine and Pharmacy category at the UG level under the guidance of Vidya Sagvekar.

Their innovative work combines Edge AI and assistive technology, showcasing its potential to make a meaningful societal impact. Their success inspires us to continue pursuing excellence in academics and research.

Prof. Wadmare Honored with Best Paper Award

Prof. Ganesh Wadmare received the Best Paper Award at an international conference organized by the Symbiosis Institute of Technology, Pune. This prestigious recognition highlights his outstanding research contributions and reflects his commitment to excellence in his field. Prof. Wadmare's achievement serves as an inspiration to the academic community and reinforces the institution's focus on fostering impactful research.

Fig: Prof. Ganesh Wadmare receives the Award

ACHIEVEMENTS

Honoring Exemplary Community Service

The National Service Scheme (NSS), a Central Sector Scheme under the Ministry of Youth Affairs & Sports, Government of India, aims to instill a sense of social responsibility and community service among young students. Through participation in various government-led community service initiatives, NSS provides students with invaluable hands-on experiences that foster personal growth and societal development.

On July 29, 2024, the NSS unit of K.J. Somaiya Institute of Technology, Sion, Mumbai, achieved a remarkable milestone by receiving recognition from Mumbai University. This honor was bestowed for the unit's exemplary efforts in organizing a blood donation drive at the bustling Mumbai Railway Station.

Fig: Felicitation of Prof. Pankaj Deshmukh and NSS Students

Fig: Trophy Recived

The success of this event was made possible under the guidance and leadership of Prof. Pankaj Deshmukh, the NSS Coordinator and a valued faculty member of the Artificial Intelligence & Data Science Department. Prof. Deshmukh's commitment to fostering a culture of service among students played a pivotal role in the recognition achieved by the NSS team.

Digital Agriculture Internship in the USA

Arish Manasia, a student from LY-AIDS, has completed an internship from Michigan State University. The project is titled "Optimal Placement of Sensors in Protected Cultivation Systems Using Different Machine Learning Techniques." The internship began on 28th May 2024 and ended on 9th July 2024. The focus of his internship was on research in digital agriculture. During this time, he had the opportunity to work with three scientists across three different laboratories, each specializing in various digital agriculture technologies.

Fig: Arish at Michigan State University.

ACHIEVEMENTS

Soaring High: Campus Placement Success 2024-25

We are overjoyed to announce the outstanding placement achievement of Shivam Singh, a stellar student from the AIDS Department at K J Somaiya Institute of Technology, Sion. Shivam has been successfully placed at IDFC FIRST Bank with an extraordinary package of 13.80 LPA, making it a proud and momentous occasion for our institute. This remarkable milestone is a reflection of Shivam's tireless efforts, perseverance, and unwavering dedication to excellence.

The achievement also highlights the institute's commitment to providing a robust academic foundation, top-notch training programs, and industry-oriented learning that equips students with the skills they need to excel in their careers. The success of Shivam Singh serves as an inspiration for all aspiring students, showcasing the boundless opportunities that hard work and the right guidance can unlock. We extend our heartfelt congratulations to Shivam and wish him immense success in his professional journey. This triumph underscores our vision of empowering students to reach new heights and reinforces our reputation as a center of academic and professional excellence.

Fig:Campus Placement 2024-25

AI-DS Team Shines at "Need for Code 3.0" Hackathon

The AI-DS Department proudly announces the outstanding achievement of Team Lorem Ipsum from KnowHow (S4DS) at the 24-hour hackathon, "Need for Code 3.0," held at Thadomal Shahani College of Engineering on August 29-30, 2024. Demonstrating exceptional innovation and technical expertise, the team developed an AI-powered solution to tackle the pressing issue of human trafficking in India. Their groundbreaking effort earned them the prestigious 2nd Runner-Up position, highlighting their commitment to using technology for meaningful social impact.

Team Lorem Ipsum consisted of Pranav Narkhede, Aniruddh Sengupta, and Rahul Dhanak from TY AI-DS, along with Aanchal Mehta from TY COMPS. Their creativity, collaboration, and problem-solving skills stood out in a highly competitive environment, showcasing their dedication to addressing real-world challenges.

We extend our heartfelt congratulations to the team for their remarkable success and for setting a strong example of innovation and teamwork. Their accomplishment reflects the AI-DS Department's commitment to empowering students to leverage technology to make a positive difference in society.

Fig: Team Lorem Ipsum - Hackathon Success

ACHIEVEMENTS

KnowWiz Triumphs at Code Odyssey

A team of talented students from KnowHow (S4DS) at K.J. Somaiya Institute of Technology (KJSIT) emerged victorious at the 30-hour "Code Odyssey" hackathon on October 5-6, 2024. Known as "KnowWiz," the team secured first place with their groundbreaking project: an "AI-Driven Fitness Content Recommendation Engine."

Their innovative solution, featuring an app and a website seamlessly integrated with AR/VR, OpenCV, and a cutting-edge Generative Adversarial Network (GAN) model, impressed the judges. The KnowWiz team, comprising Pranav Narkhede, Aniruddh Sengupta, Rahul Dhanak, and Arya Gami from the TY AI-DS program, demonstrated exceptional technical prowess and creative problem-solving skills. This remarkable achievement underscores their commitment to pushing the boundaries of AI applications in the fitness domain.

KJSIT Football Team Starts Strong with 6-0 Win

The KJSIT Football Team kicked off their Mumbai University tournament campaign with a resounding 6-0 victory against Asmita Law College. The team showcased impressive attacking prowess, dominating possession and creating numerous scoring opportunities throughout the match. This dominant performance sets a strong foundation for the team's aspirations in the future tournaments.

Fig: KJSIT Football Team

Fig: KnowWiz Team Receives the Code Odyssey Award

AI-Powered Healthcare: Revolutionizing Diagnosis and Treatment

READERS SECTION

Artificial intelligence (AI) is transforming the healthcare industry, offering innovative solutions to improve diagnosis, treatment, and patient care. By analyzing vast amounts of data with advanced algorithms, AI is making healthcare faster, more accurate, and more efficient. One of the most significant applications is in diagnostic imaging, where machine learning models can analyze medical images like X-rays, MRIs, and CT scans to detect early signs of diseases, such as cancer and heart conditions, often more precisely than human eyes. This leads to faster diagnoses and better patient outcomes.

AI is also advancing personalized medicine by tailoring treatment plans based on a patient's genetic makeup, medical history, and lifestyle. AI models predict how patients will respond to treatments, reducing the risk of adverse reactions. Continuous monitoring through wearable devices enables proactive management of chronic conditions.

AI-powered chatbots and virtual assistants improve patient engagement by providing 24/7 support for appointment scheduling, health advice, and answering queries, freeing up healthcare professionals for more complex tasks. These tools also offer mental health support through virtual therapies and connections to counselors.

Moreover, AI is streamlining administrative tasks, such as patient scheduling and billing, reducing the time spent on non-clinical duties. Predictive analytics helps hospitals optimize resources by forecasting patient admissions and treatment needs.

Despite its benefits, AI in healthcare presents challenges, particularly around patient privacy and data security. Algorithmic bias is another concern if the data used to train AI models is not representative of all patient populations. Researchers are working to address these issues with more inclusive datasets and ethical guidelines.

Looking ahead, AI promises to transform healthcare into a more proactive and personalized system, offering breakthroughs in early disease detection, customized treatments, and improved patient care. As AI evolves, it will continue shaping healthcare, making it more efficient, accessible, and patient-centered.

-Jhalak Dedhial
TY AI - DS

READERS SECTION

Quantum Computing in AI

AI is currently dominant in the technology stack, with its wide use in every sector. However, the limitations of classical computers extend beyond AI's potential. Can you believe that artificial intelligence has limitations as well? Indeed, AI's limited computational capacity limits its functionality, just like that of traditional computers. The performance of AI and machine learning could be greatly improved with the developments in quantum computing. The extent of quantum computing will be examined in the future with regard to its impact on artificial intelligence and its consequences for a number of industries, businesses, and the economy.

By utilizing the principles of quantum mechanics, including superposition and entanglement, quantum computers execute calculations at remarkable speeds, rendering them exceptionally suitable for intricate artificial intelligence applications such as machine learning, optimization, and natural language processing. For example, quantum algorithms such as Quantum Neural Networks (QNN) and Quantum Support Vector Machines (QSVM) significantly improve model training and classification processes, thereby expediting the advancement of AI technologies. Furthermore, quantum computing is revolutionizing sectors such as healthcare, finance, and logistics by addressing large-scale optimization challenges and enhancing data security through quantum cryptography.

With substantial progress made by technology leaders like IBM, Google, and emerging startups in India, this collaboration is generating numerous job opportunities worldwide. Individuals aspiring to excel in quantum programming and AI are well-positioned to drive innovations, influencing the future landscape of technology and industry.

-.*Prof. Medha Asurlekar*
Department of Artificial Intelligence and Data Science