SMVITM

Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal

The Department of Artificial Intelligence & Data Science

presents

AI Spotlight

Newsletter

Prepared by

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Dear Students, Faculty, and Esteemed Visitors,

Welcome to the Department of Artificial Intelligence and Data Science at Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi. It is my pleasure to extend a warm greeting to all who have chosen to be a part of our vibrant community.

As the Head of the Department, I am thrilled to lead a team of dedicated faculty members and enthusiastic students who share a passion for exploring the limitless possibilities of artificial intelligence and data science. Our department is committed to providing an environment that fosters academic excellence, innovation, and ethical application of cutting-edge technologies.

At the core of our department's mission is a commitment to nurturing the next generation of leaders in AI and data science. We believe in empowering our students with a robust foundation in theoretical knowledge and practical skills, preparing them to address the complex challenges of our digital age.

Our curriculum is designed to reflect the dynamic nature of AI and Data science, ensuring that students are equipped with the latest tools and methodologies. We encourage a spirit of curiosity and innovation, fostering an environment where research and hands-on projects play a central role in the learning process.

Our distinguished faculty members are not only experts in their respective fields but also passionate educators who are deeply committed to guiding and mentoring students. They bring a wealth of industry experience and research expertise, ensuring that our students receive a comprehensive and relevant education. We take pride in our department's contributions to cutting-edge research in artificial intelligence and data science. Our faculty and students actively engage in projects that push the boundaries of knowledge and contribute to advancements in these rapidly evolving fields.

As HOD, my focus is on creating a student-centric environment that promotes holistic development. We provide numerous opportunities for extracurricular activities, industry exposure, and collaboration with peers, fostering a well-rounded educational experience. Whether you are a prospective student, a current member of our community, or a visitor interested in our work, I invite you to explore the exciting initiatives and opportunities that define our Department of Artificial Intelligence and Data Science.

Thank you for choosing to be a part of this journey. Together, let's explore, innovate, and shape the future of AI and Data Science.

Mr. Nagaraja Rao

ABOUT DEPARTMENT

Welcome to the vibrant and cutting-edge Department of Artificial Intelligence and Data Science at Shri Madhwa Vadiraja Institute of Technology and Management (SMVITM), Bantakal, Udupi. We take pride in being at the forefront of technological advancements, preparing students to excel in the rapidly evolving fields of AI and data science.

The Artificial Intelligence and Data Science Engineering in SMVITM was started in the academic year 2021-22 offering an undergraduate program with an intake of 60 students per year. Artificial Intelligence and Data Science is an interdisciplinary field of science, engineering, and technology that is causing a paradigm change in nearly every sector of the technical industry, academia, and research. Artificial Intelligence and Data Science are the future of technology, and they are rapidly altering the world. The primary goal of this course is to familiarise students with the next generation of machine intelligence and analytics, which will impact nearly every aspect of our lives, improving efficiencies and augmenting human capabilities, and influencing consumer products through significant breakthroughs in the healthcare, manufacturing, finance, and retail industries.

Data Science plays an important role in assisting every business organization in identifying business trends and changes through advanced Big Data Analytics with a variety of techniques and tools to interpret and predict business results and the future from multiple data sources through statistical analysis, data aggregation, and data mining.

The Department of Artificial Intelligence and Data Science Engineering has well qualified and motivated faculty members who are highly committed to the overall development of the students. Along with the regular curriculum, the Department organizes various guest-lectures/invited talks by eminent faculty from reputed institutions/industry experts to keep students up to date about the latest technological developments.

The Department has state-of-the-art laboratories equipped with high-end computers and other required peripherals to meet the academic needs of students. The Department has the most sophisticated and state-of-the-art computer labs aimed at giving hands-on training to the students in the most advanced areas in programming and software development. In addition to the existing labs, an internet lab as a central facility is being developed.

Join AI and data science clubs, participate in hackathons, and attend workshops to enrich your academic experience and connect with like-minded peers. Explore hands-on learning experiences through internship programs with leading tech companies, bridging the gap between academia and industry.

OUR VISION

To be recognized as a center of eminence in the field of Data Science for holistic engineering education and research on current technologies.

OUR MISSION

1. To impart quality and value-based education and contribute towards the innovation of computing, expert system, Artificial Intelligence and Data Science

2. To build a data intensive system through socio-economic aspects by promoting cross-disciplinary thinking that expands expertise in cutting edge technologies and acquire professional ethics.

3. Promote the overall personality development of the students through activities that have high credibility and societal impact.

PROGRAM EDUCATIONAL OBJECTIVES

PEO-1	Graduates shall accomplish in the field of Artificial Intelligence & Data Science by utilizing their acquired knowledge and abilities to build engineering solutions in making things simpler.
PEO-2	Advance their technical skills to pursue pioneering research in the field of AI and Data Science and create disruptive and sustainable solutions for the welfare of ecosystems
PEO-3	Graduates shall be adaptable to rapidly changing technologies and advances in order to achieve professional excellence.
PEO-4	Graduates shall be equipped with strong technical knowledge, competency in soft skills, lifelong learning skills that allow them to contribute ethically to the need of society

PROGRAM OUTCOMES

PO No.	Graduate Attribute	PO Statement
PO 1	Engineering Knowledge	Apply the knowledge of mathematics, Science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
PO 2	Problem analysis	Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO 3	Design/ Development of Solutions	Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.
PO 4	Conduct investigations of complex problems	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO 5	Modern Tool Usage	Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO 6	The Engineer and Society	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice
PO 7	Environment and Sustainability	Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development
PO 8	Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
PO 9	Individual and Teamwork	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
PO 10	Communication	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions
PO 11	Project Management and Finance	Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
PO 12	Life-long Learning	Recognize the need for and have the preparation and ability to Engage in independent and life- long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES

PSO-1	Gain the ability to independently carry out research to solve practical problems in the field of Artificial Intelligence and Data Science.
PSO-2	Comprehend the role of Artificial Intelligence and Data Science in various domains like businesses, healthcare, expert systems, etc. for efficient data storage, analysis and visualization

CONTENTS

DEPARTMENT ACTIVITIES

1. Workshop on "Making Resume and LinkedIn Profiles"

Department of AI-ML & AL-DS conducted a comprehensive two-hour session on professional development aimed at equipping students with insights and tools necessary for their professional growth. This session was specifically tailored for students of the fifth semester 2021 Scheme. The Workshop on "Making Resume and LinkedIn Profiles" was held on 12th January 2024, from 2:00pm to 4.00pm in Dept of AI- DS/ ML, SMVITM.

During the session, the resource person Dr. Manjunath guided crafting effective resumes, emphasizing the importance of grammar and individual strengths while cautioning against falsifying information. An assignment-like activity spanning the following week tasked students with creating resumes and sharing them with faculty members.

Additionally, the significance of LinkedIn in professional networking was highlighted, with Dr. Manjunath demonstrating its utility in establishing valuable connections and introducing LinkedIn Premium's benefits, including a complimentary one-year trial for college students.

Overall, the session provided invaluable insights into professional development, arming students with practical knowledge essential for navigating the competitive professional landscape. It is recommended to conduct more such sessions regularly to further enhance students' readiness for the workforce. Gratitude is extended to Dr. C K Manjunath for his informative session, with anticipation of future collaborations aimed at enriching students' professional journeys.

2. Workshop on "Introduction to AI"

Department of Artificial Intelligence & Data Science and Artificial Intelligence & Machine Learning Engineering of SMVITM jointly organized two days hands-on workshop on "Data Science and Machine Learning with Python" on 26th and 27th January 2024 for First Year and Second Year Students of AIML and CSE.

On Day 1, attendees delved into Python basics and libraries, learning script writing, variables, data types, and essential commands for version control on GitHub. A refresher quiz added an interactive element, fostering engagement. Additionally, a hands-on session on Machine Learning algorithms empowered students to run models using popular tools and evaluate results.

Day 2 focused on data visualization, exploring heart disease prediction with matplotlib and other tools. Linear regression was practiced, emphasizing applications and limitations, followed by a test to review learning. Project work was assigned for further exploration. While the workshop was insightful, some challenges arose, including internet issues and content complexity. The workshop was only for 50 Students based on first come first serve basis through google form.

Suggestions included encouraging students to bring their laptops for smoother setups. Hosted by the IGNITE AI CLUB MEMBERS, the workshop aimed to enhance students' practical skills in AI and ML.

3. A peer learning session on "Git and GitHub"

The Department of Artificial Intelligence & Machine Learning/Artificial Intelligence and Data Science Engineering of Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal in association with ISTE, IEEE and Ignite-AI Club organized "A peer learning session on Git and GitHub" which was held on 09th May 2024 in the institute premises.

Mr. Pratham Kamath and Mr. Ramachandra Udupa were the student volunteers. They taught about the understanding of version control systems, specifically focusing on Git and its cloud-based counterpart, GitHub. A Total 125 students of 2nd Semester AI-DS/ML were benefited by the workshop.

The session was divided into various segments : Interactive Session followed by Q&A session and ended with feedback and Conclusion.

Participants expressed positive feedback about the session, highlighting the clarity of explanations and the practical approach to learning Git and GitHub. The Ignite-AI Club plans to organize more peer learning sessions on advanced topics in software development and version control systems.

Dr. Nagaraja Rao, Associate Professor and HOD - Intelligence & Machine Learning/Artificial Intelligence and Data Science Engineering, coordinated the event. Ms. Vandana U - Assistant Profesor, Ms. Megha Rani R -Assistant Professor were present during the event.

09 May 2024 4:41 pm

4. A Talk on CareerXcel : "Skills to Success"

The Department of Artificial Intelligence & Machine Learning/Artificial Intelligence and Data Science Engineering, Department of Electronics and Communication Engineering of Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal in association with ISTE, IEEE, Technocrators and Ignite-AI Club organized "A Talk on CareerXcel : Skills to Success" which was held on 14th May 2024 in the Admin Block Seminar Hall.

Mr. Pushpendra Singh, who is an Entrepreneur and Director of, Golden bird International, Dubai was the resource person for the event.

SHRI MADHWA VADIRAJA INSTITUTE OF TECHNOLOGY & MANAGEMENT
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SMVITM

Ignite AI Club of
Department of AI & DS and AI & ML Engineering
Technocrators Club of
Department of Electronics & Communication Engineering
&
ISTE Student Chapter

Jointly Organising a Talk On

CareerXcel : Skills to Success
by

Mr. Pushpendra Singh
Director,
Goldenbird International, Dubai

Date : 14 May 2024 Time : 10:00 AM to 12:00 PM
Venue : Seminar Hall-2 (Library Block)
ALL ARE CORDIALLY WELCOME

SMVITM - Engineering your Career and Character with Care

The event was conducted in Seminar Hall, Main Admin Block from 10:00am to 12.00pm. The sessions were conducted in two parts – 10:00am to 10:45am for 4th Sem AI-ML/DS and EC students and 11:00 am to 11:45am for 6th sem AI-ML/DS and EC students. A Total of around 180 students from different sections/semesters attended the session.

The resource person spoke about the 3 phases available in CareerXcel, ie, Technical Education, Non-technical education and also Work experience. Technical Education includes Learning Python, Apps and Web Development using Android Studio, VS code, Adobe XT, Java HTML, CSS.

Non-technical education includes: Top 5 AI tools, E-portfolio, Corporate Communication. Internship details includes Real Industry Projects, Free of cost and will provide with necessary exposure of technology to the students.

Participants expressed positive feedback about the session, highlighting the clarity of The Ignite-AI Club and Technocrators plans to organize more such informative and Learning sessions in the future.

Dr. Guruprasad, Associate Professor and HOD – Electronics and Communication Engineering, coordinated the event. Ms. Vandana U - Assistant Professor, Ms. Megha Rani R - Assistant Professor, Ms. Chandana and Mr. Sachin Prabhu were present during the event

Faculty Accomplishments

- Mr. Ranjan Kumar was awarded Ph.D degree from VTU, Belagavi on 25th December, 2023 for his thesis titled "Group key generation and distribution for secure multicast transmission in wireless sensor networks. "

- Ms. P Vaidehi Nayantara was awarded Ph.D degree from MAHE, Manipal on July 1st, 2024 for her thesis titled "Computer Aided Diagnosis System for Detection and Classification of Liver Tumor using Computed Tomography Images."

Faculty Development Programme & Workshops

Sl. No	Name of Faculty	Title of the FDP/Workshop	Venue/College Name
1	Dr. Ranjan Kumar H S	Full Stack Development using Python-Django	SMVITM, Bantakal
2	Mr. Sarvesh S Rao	Full Stack Development using Python-Django	SMVITM,Bantakal
		Mongodb -A project based hands on training	Sai Vidhya institute of technology Bangalore
3	Ms. Vandana U	Capacity Building Program in Cyber Security and its Investigation	Research foundation of India and RFI-CARE

Faculty Journal/Conference Publications

Sl. No	Name of the Authors	Title of the paper	Name of the Journal/Conference
1	Vaidehi Nayantara, Surekha Kamath, Rajagopal Kadavigere, Manjunath KN	Automatic Liver Segmentation from Multiphase CT Using Modified SegNet and ASPP Module	SN Computer Science
2	Abhilash Naik, Anusha, Nikhitha Shetty, Pavan Shettigar, Nagaraja Rao	Hydro Jet- Efficient Rooftop Cleaning System with External High-Pressure Washer Integration	International Research Journal of Engineering and Technology
3	Raju K, Ranjan Kumar H S,Guru Prasad,Chandrappa,Sunil Kumar,Ramakrishna B B	Towards Energy Efficient Computing: A Precision Scalable SAE Subspace KNN Methodology	Sixth International Conference on Electrical, Computer and Communication Technologies held at Bhilai, Chhattisgarh,India
4	Ranjan Kumar H S, Raju K,Guru Prasad, Chandrappa, Sunil Kumar, Ramakrishna B B	A Novel approach to Automatic road accident detection using deep mutual learning based technique	International Conference on hybrid and advanced technologies-2024 held at QIS College of Engineering and technology, Ongole

STUDENT RESULTS

Third Semester

Toppers with SGPA

1	Sinchana	9.62
2	Sameeksha	9.43
3	Thilak	9.19
	Nireeksha	9.19

Student Pass percentage	83.87

Fifth Semester

Toppers with SGPA

1	Hithashree	9.44
2	Disha PU	9.11
	Sahana S Prabhu	9.11
Student Pass percentage		88.52

STUDENT ACHIEVEMENTS

Technical achievements

- Mr. Pratham L Kamath (4MW21AD038), Mr. Rahul Mendon (4MW21AD042) and Mr. Akshay Nayak (4MW21AD029) won first prize in Sankalp ' 2024 (8-hours hackathon) organized by IEEE student branch of A.J. Institute of Engineering and Technology, Mangalore on 13 July 2024.

- Mr. Ramachandra Udupa (4MW21AD043) and Mr. Pratham L Kamath (4MW21AD038) won second place in Codecraze event during State Level Techno

Cultural and Management Fest "SAAVISHKAR" held at Moodlakatte Institute of Technology, Kundapura on 1st and 2nd May 2024.

- Mr. U Pradyumna Upadhyaya (4MW23AD058), Mr. Shrikiran Bhat (4MW23AD044), Mr. Sathwik Bhat (4MW23AD039) and Mr. Srajan Nairy (4MW23AD051) have won 1st place in Lakshman Reekha (Line Follower) event held during National Level Roboevent "Yentechmania Robo Fusion" at Yenapoya Institute of Technology on 29 April 2024.

- The following students have won prizes in various events organized during "TECH YUVA- 2K24" at Srinivas Institute of Technology on 26th and 27th March 2024.

Student details		Event	Prize won
Pradyumna. U (4MW23AD058)		Line Follower	2nd place
Shreekiran Bhat (4MW23AD044)			
Poojary Bhushan Bhaskar (4MW23AD026)		Ideathon	2nd place
Prajwal Gulvadi (4MW23AD029)			
Chirag (4MW23AD009)			
Sathwik Bhat (4MW23AD039)	Table Tennis	3rd place	

- Mr. Ramachandra (4MW21AD043) won 1st place in Code 45 and Webbed events.

- Mr. Pratham L Kamath (4MW21AD038) won the Hayavadana Prashasthi 2023 (Student of the Year) award on 29th December 2023.

- The students of our department have won prizes in various events conducted during "Incridia-24" held at NMAM Institute of Technology, Nitte, from 22nd to 24th February 2024.

- Mr. Prateek M (4MW21AD037) and Mr. Thushar V Shetty (4MW21AD059) won 2nd place; and Mr. Anurag Rao (4MW21AD009) and Mr. Rahul Mendon (4MW21AD042) won 3rd place in Meme Wars event.

Newsletter by

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