DOMAIN SPECIFIC WORKSHOP

on

"Artificial Intelligence"

During 15.12.2025 to 20.12.2025

for

III B.Tech CSE(AI) students

Organized by

Department of CSE(Artificial Intelligence)

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES, Chittoor

UGC AUTONOMOUS

(Approved by AICTE, Affiliated to JNTUA, Accredited by NBA (EEE & MCA)

2025-26

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Professor and HOD, CSE(AI)

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Dr. Munipraveena Rela

Associate Professor, CSE(Artificial Intelligence)

STUDENT COORDINATOR

D. Jagadeesh Babu

III B.Tech, CSE(AI)

Organizing   Committee

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2. Mr. M Lohith , Asisitant Professor
3. Ms. M Deepika, Assistant Professor
4. Mr. V. Ajay, Assistant Professor
5. Mrs. E Monisree, Teaching Assistant
6. Mr. N. Mohan Reddy, Teaching Assistant

Brochure / Flyer

About the Department of CSE(Artificial Intelligence)

The Department of Computer Science & Engineering (Artificial Intelligence) at SITAMS was established in 2021 with an initial intake of 60, which has been expanded to 120 from 2023. The program is designed to produce skilled AI engineers capable of creating innovative, intelligent solutions for real-world problems across industries.

Led by Prof. M. E. Palanivel, an academician with over two decades of teaching and research experience, the department is supported by a team of 10 dedicated faculty members committed to quality teaching and impactful research.

The curriculum emphasizes hands-on learning of AI algorithms, techniques, tools, and applications, enabling students to develop AI-based platforms and solutions. Graduates gain strong analytical and problem-solving skills, preparing them for high-demand careers in emerging technology sectors.

ABOUT INSTITUTE

Sreenivasa Institute of Technology and Management Studies, an Institution of Technical education functioning under Sreenivasa Trust is intended for the dissemination of profound knowledge among the ambitious student community in Engineering and Technology. It has established its reputation in not only imparting high quality education but also in emphasizing discipline.

This institution offers programs viz., B.Tech., (EEE, ECE, MECH, CSE , CSE(AI), CSE(AI&ML), CSE(DS) & CIVIL), M.Tech. (CSE, PE, VLSISYD, PD), MBA and MCA. The institution takes care to impart updated and high quality technical education throughout the year. Every effort is taken to transform the students into well rounded personality with strong confidence and sound character making no compromise in dedication and perfection, morality, commitment.

SITAMS

Sreenivasa Institute of Technology and Management Studies
(Autonomous)
Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuram
Chittoor-517127, A.P.

Domain Specific workshop on Artificial Intelligence

📅 15-Dec-2025 to 20-Dec-2015

📍 Sathya kesav Gallery, Sitams

Organized By
Department of CSE (Artificial Intelligence)
Sreenivasa Institute of Technology and Management Studies
Chittoor - 517127, A.P.

About The Workshop

This six-day workshop provides comprehensive exposure to modern Artificial Intelligence, covering Explainable AI, Deep Learning applications, interpretable models, and real-world innovations. The sessions explore AI applications in healthcare, NLP, and Large Language Models, with a strong focus on interpretability, trustworthiness, and practical deployment of AI systems.

DAY-I   15-Dec-2025
9:00 a.m. - 12:00 pm to 1:00p.m. 4:00 p.m. - Explainable AI & It's Applications

DAY-II   16-Dec-2025
9:00 a.m. - 12:00 p.m. to 1:00p.m.4:00 p.m. - DL in Action:
Real-world Applications & Innovations

DAY-III   17-Dec-2025
9:00 a.m. - 12:00p.m. to 1:00p.m. - 4:00 p.m. Interpretable Models & Explainable AI Techniques

DAY-IV   18-Dec-2025
9:00 a.m. - AI in Medical Applications
1:00 p.m. - AI in Development of LLM

DAY-V   19-Dec-2025
9:00 a.m. - 12:00p.m. to 1:00p.m. 4:00 p.m. - AI Applications in NLP

DAY-VI   20-Dec-2025
9:00 am - 12:00p.m. to 1:00p.m. –4:00 p.m.
Explainable DL Interpretability & Trustworthy AI

Resource Persons

DAY-I & III   Dr. N. Gomati
Professor, Veltech, Chennai

DAY-II   Dr. G. Gopi Chand
Associate Professor
School of Computer Science Engineering
VIT, Vellore

DAY-IV   Dr. K. Arivu Selvan
Professor & HOD, SCIT
VIT University, Chennai

DAY-V   Dr. A.P. Siva Kumar
Professor of CSE & COE
JNTUA, Ananthapuramu

DAY-VI   Mr. Raghavendra Babu
Project Manager
Tech Mahendra, Bengaluru

ORGANISINNG COMMITEE

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Managing Trustee

CO-PATRON
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Principal

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III B.Tech. Department of CSE(AI)

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Chittoor-517127, A.P.

DEPARTMENT OF CSE(ARTIFICIAL INTELLIGENCE)

THIRD DAY OF DOMAIN SPECIFIC WORKSHOP ON INTERPRETABLE MODELS & X-AI TECHNIQUES

📅 17 December, 2025

RESOURCE PERSON

Dr. N. Gomati

Professor of CSE

Veltech, Chennai

Sreenivasa Institute of Technology and Management Studies

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Chittoor-517127, A.P.

Department of Artificial Intelligence

FOURTH DAY OF THE DOMAIN SPECIFIC WORKSHOP ON AI in Medical Applications & Development of LLM

Resource person

Dr. K. Arivu Selvan

Professor & HOD, SCIT

VIT University, Chennai

📅 18 Dec, 2025   📍 Seminar Hall, Mechanical Block

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Fifth day of the domain specific workshop
on
Explainable AI (XAI) Applications in NLP

Resource person
Dr. A.P. Siva Kumar
Professor of CSE & COE
JNTUA, Ananthapuramu

📅 19 December, 2025   📍 Seminar Hall, Mechanical Block

Sreenivasa Institute of Technology and Management Studies

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Department of Artificial Intelligence

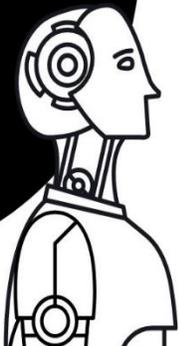## Sixth day of the domain specific workshop
on
Explainable DL Interpretability
&
Trustworthy AI

DATE
20 DECEMBER, 2025

Resource person
Mr. Raghavendra Babu
Project Manager
Tech Mahendra, Bengaluru

VENUE
SEMINAR HALL,
MECHANICAL BLOCK

SCHEDULE OF DOMAIN SPECIFIC WORKSHOP

Title of the Domain Workshop: Artificial Intelligence
Schedule: 15.12.2025-20.12.2025
Department: CSE(AI)

Date	Session	Title of the Delivery Content	Name of the Resource Person with Address	Mode of Delivery (Online/Offline)
15.12.2025	FN	Explainable AI and its application	Dr N Gomathi Veltech deemed University, Chennai	Offline
	AN	Explainable AI and its application	Dr N Gomathi Veltech deemed University, Chennai	Offline
16.12.2025	FN	"Deep Learning in Action: Real-World Applications and Innovations"	Dr G Gopi chand Associate Professor, VIT, Vellore	Online
	AN	"Deep Learning in Action: Real-World Applications and Innovations"	Dr G Gopi chand Associate Professor, VIT, Vellore	Online
17.12.2025	FN	Interpretable models and Explainable AI Techniques	Dr N Gomathi Veltech deemed University, Chennai	Offline
	AN	Interpretable models and Explainable AI Techniques	Dr N Gomathi Veltech deemed University, Chennai	Offline
18.12.2025	FN	AI in Medical Applications	Dr. K Arivu Selvan Professor, VIT University, Chennai	Online
	AN	AI in Development of LLM	Dr. K Arivu Selvan Professor, VIT University, Chennai	Online
19.12.2025	FN	AI Applications in NLP	Dr. A P Siva Kumar Professor, CSE JNTUA, Ananthapuramu	Online
	AN	AI Applications in NLP	Dr. A P Siva Kumar Professor, CSE JNTUA, Ananthapuramu	Online
20.12.2025	FN	"Explainable Deep Learning: Interpretability and Trustworthy AI"	Mr. Raghavendra Babu P, Project Manager, Tech Mahendra, Bengaluru	Online
	AN	"Explainable Deep Learning: Interpretability and Trustworthy AI"	Mr. Raghavendra Babu P, Project Manager, Tech Mahendra, Bengaluru	Online

Resource Person Bio data

Dr. N. Gomathi

Professor, Department of Computer Science and Engineering
Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and
Technology, Chennai

Profile Summary

Dr. N. Gomathi is a distinguished academician and researcher with over **27 years of teaching experience** and **19 years of research experience** in the field of **Computer Science and Engineering**. She specializes in **Cyber Physical Systems**, with strong interdisciplinary expertise spanning **Artificial Intelligence, IoT, Machine Learning, Deep Learning, Medical Image Processing, Wireless Sensor Networks, Vehicular Ad Hoc Networks, and Smart Systems**.

She has successfully **guided 10 Ph.D. scholars**, published extensively in **high-impact SCI/Scopus indexed journals**, and actively contributes as a **reviewer for SCI journals**. Dr. Gomathi has also served as **Head of the Department** for nine years and is a **Research Advisory Committee (RAC) member** at Anna University, MGR University, and leading engineering institutions.

Publications & Research Output

- **70+ research publications** in reputed **IEEE, Springer, Elsevier, Wiley, and SCI journals**
- Key research contributions in:
    - AI-based Healthcare & Medical Imaging
    - IoT & Wireless Sensor Networks
    - Optimization Algorithms & Swarm Intelligence
    - Smart Energy, EV Charging & Sustainable Computing
    - Cyber-Physical and Safety-Critical Systems

Projects & Patents

- **DST-Funded Project (₹5 Crores)** on **E-Waste Management** – Completed
- **HORIZON-2020 International Project (Germany)** – Completed

- **5 Indian Patents Published**, including:
    - AI-powered COVID-19 detection
    - Brain tumor detection using deep learning
    - Avionics task scheduling on multicore processors

Awards & Professional Recognition

- **Best Paper Award** – International Conference
- **Cisco Certified CCNA Instructor Award (2015–2022)**
- **Outstanding Publication Awards – Vel Tech**
- **Certified E-Waste Management Specialist (IIT-Madras)**
- **Keynote Speaker** at MGR University & International Conference, Japan
- **Session Chair**, International Conference i-PACT 2023 (University of Malaya)

Expertise & Roles

- Cyber Physical Systems & AI
- Smart Healthcare & Assistive Technologies
- Sustainable Computing & E-Waste Recycling
- Academic Leadership & Research Mentoring

Dr. Gopichand G

Designation: Assistant Professor (Senior Grade–I) School / Centre: School of Computer Science and Engineering
Department: Information Security

Educational Qualifications

Ph.D. in Computer Science and Engineering

Specialization: Mobile Ad Hoc Networks

Institution: Vellore Institute of Technology (VIT), Vellore

Year of Completion: 2021

M.Tech in Computer Science and Engineering

Institution: Acharya Nagarjuna University, Guntur

Year of Completion: 2010

M.Tech in Computer Science and Engineering

Specialization: Computer Networks

Institution: Jawaharlal Nehru Technological University, Anantapur

Year of Completion: 2012

B.Tech in Computer Science and Engineering

Institution: Jawaharlal Nehru Technological University, Hyderabad

His academic and research interests include **Wireless Networks, Artificial Intelligence, Internet of Things (IoT), Machine Learning, and Data Science**. He has actively contributed to teaching, research, and knowledge dissemination in emerging technologies and regularly engages students through expert lectures and technical sessions.

Dr. Arivuselvan K

- Associate Professor (Grade–I), Department of Information Technology
- School of Computer Science Engineering and Information Systems
- Ph.D. in Computer Science from VIT, Vellore (2019)
- M.Tech in Computer Science from VIT, Vellore (2005)
- B.E. in Computer Science from PSG College of Technology, Coimbatore (Bharathiyar University)
- Experienced academician with strong expertise in computer science education and research
- Actively involved in teaching, research, and student mentoring

Dr. Arivuselvan K has strong expertise in **Artificial Intelligence (Generative AI and Agentic AI)**, **Machine Learning**, **Deep Learning**, and **Computer Vision**, with a special focus on **Medical Image Processing**. His research interests also include **Computational Neuroscience**, particularly **brain-inspired computing and assistive technologies**, along with **Operating Systems**. He actively contributes to teaching, research, and academic development in emerging AI technologies.

Expertise: Medical Image Processing, Deep Learning, Machine Learning, Artificial Intelligence, Neural Networks, Computational Neuroscience, Defect Detection.

Research Focus: AI for Neural Disorders (like Autism Spectrum Disorder), Medical Diagnostics, Plant Disease Detection.

Dr. A. P. Siva Kumar

Professor, Department of Computer Science & Engineering
Jawaharlal Nehru Technological University Anantapur (JNTUA)
Ananthapuramu – 515002, Andhra Pradesh, India

Academic Qualifications

Dr. A. P. Siva Kumar is an accomplished academician with a strong educational background from reputed institutions:

- **Ph.D. in Computer Science & Engineering**
  JNTUA College of Engineering, Anantapur — *2011*
- **M.Tech in Computer Science & Engineering**
  JNTUA College of Engineering, Anantapur — *2004* (Distinction)
- **B.Tech in Computer Science & Engineering**
  Sree Visvesvaraya Institute of Technology, JNTU Hyderabad — *2002* (Distinction)
- **Intermediate** – Ratnam Junior College, Nellore — *1997* (Distinction)
- **SSC** – Rotary English Medium High School, Guntakal — *1995* (Distinction)

Professional Experience

Dr. Siva Kumar has over **18 years of teaching and academic administration experience** at JNTUA:

- **Professor**, JNTUA College of Engineering, Anantapur *(Dec 2022 – Present)*
- **Associate Professor**, JNTUA College of Engineering, Anantapur *(2019 – 2022)*
- **Assistant Professor**, JNTUA College of Engineering, Anantapur *(2006 – 2019)*
- **Controller of Examinations**, JNTUA *(Aug 2024 – Present)*

His responsibilities include teaching, academic planning, examination reforms, and institutional governance.

Key Achievements & Contributions

- **Developer of JEMS (JNTUA Examination Management System)** – a comprehensive software solution that automates pre- and post-examination processes for autonomous institutions.
- Developed **EDEP support system** for converting Word documents to LaTeX and assembling question banks.
- As **Placement Officer**, played a pivotal role in achieving **record placements of 121 students** for the second outgoing batch at JNTUA College of Engineering, Pulivendula.
- Received **Letter of Appreciation and Team Award** from **Patni Computer Systems, Mumbai** (2005–2006) for outstanding professional contribution.

Awards & Recognitions

- **AICTE Career Award for Young Teachers (CAYT)** – *2013–14* (Grant: ₹1,50,000)
- **Outstanding Faculty Award** for contributions to **Cross-Lingual Information Retrieval**, Centre for Advanced Research and Design, VIF, Chennai
- **Certificate of Merit – First Best Reviewer**, UGC Academic Staff College

Expertise & Interests

- Computer Science & Engineering Education
- Examination Systems & Academic Automation
- Information Retrieval
- Software Systems Development
- Academic Administration & Quality Assurance

Mr. Raghavendra Babu P

Program Manager – Aerospace & Defense
Tech Mahindra, Hyderabad

Professional Summary

Mr. Raghavendra Babu P is a **result-oriented industry leader with over 23 years of experience** across **Aerospace, Defense, Automotive, and Locomotive sectors**. He possesses strong expertise in **design, manufacturing, avionics software development (DO-178C), benchmarking, and quality systems**. Known for building high-performance teams, he has successfully led large offshore development centers (ODCs) and managed complex global engineering programs.

His core competencies include **ODC setup, partner selection, regulatory compliance, technical delivery, project management, quality system implementation, dynamic leadership, and administration**. He is a **Certified Internal Auditor for AS9100** and has worked extensively on prestigious aircraft platforms such as **A321 Neo, A320, A350, A380, A400M, Boeing 767-300, B787 Dreamliner, NH90 Helicopter, Gripen, and LCA**.

Educational Qualification

- **M.Tech in Production Engineering & Systems Technology (2000)**
  National Institute of Engineering, Mysore
  Visvesvaraya Technological University

Professional Experience

Program Manager – Tech Mahindra, Hyderabad *(June 2012 – Present)*

- Program Manager for **North America Aerospace Accounts**
- Managing engineering requirements for **Boeing India** across design, analysis, systems, and manufacturing engineering
- Heading a **25-member team** for **Avionics Software Development** for a US-based client
- Responsible for growth of **Boeing and North America Aerospace business**

Program Manager – Saab India Technology Center (2012–2022)

- Led **aeronautics and aero-structures business**
- Built and managed teams of **80+ design engineers** and **60+ NC/CMM programmers**
- Worked on **A321 Plug Door and Over-Wing Emergency Exit projects**

Senior Project Leader – Assystem India Pvt. Ltd., Bangalore (2005–2012)

- Offshored aero-structures business from Assystem UK
- Led projects on **A320 Sharklets, A350 FLE brackets, A400M system brackets**
- Played a key role in **Boeing 767 Passenger-to-Freighter conversion** for IAI, Israel
- Gained **10 months of on-site international experience** in Israel

Senior Design Engineer – Cyient, Hyderabad (2004–2005)

- Worked on **Bombardier Transportation projects**, including LRV Vienna and NJT cars

Senior Research Fellow – Aeronautical Development Agency, Bangalore (2003–2004)

- Designed and detailed **LCA air intake assemblies** using CATIA V4/V5

System Engineer – Advanced Systems Laboratory (DRDL), Hyderabad (2000–2003)

- Contributed to **missile programs** and developed mechanisms for **LCA spin recovery parachute system**

Areas of Expertise

- Aerospace Design & Manufacturing
- Avionics Software Development (DO-178C)
- Quality Systems & AS9100 Compliance
- Project & Program Management
- Offshore Development Centers (ODC)
- Team Leadership & Engineering Excellence

ABOUT THE COLLEGE:

Sreenivasa Institute of Technology and Management Studies (SITAMS) was established in the year 1998-99 under Srinivasa Trust by a prominent industrialist late Dr.D.K.Audikesavulu, Ex.M.P, Former TTD Chairman. Over the last 20 years, SITAMS has made remarkable progress in teaching, research and consultancy in the field of technical education and management studies under the Chairperson Late. Smt. D.A.Sathyaprabha (W/o Late Dr.D.K.Audikesavulu), MLA, Chittoor.(2013-2021) and Chairman Shree K.Ranganatham, former Advisor for Power Sector, Govt of Andhra Pradesh. SITAMS, a pioneer of value based education, offers both U.G. (ECE, CSE, CSE(AIML), CSE(AI), CSE(DS), EEE, Civil & Mechanical) and P.G. (MBA, MCA & M.Tech.), courses under JNTUA, Anantapuramu and is approved by AICTE, New Delhi. The college got 2(f) and 12(b) status by the UGC in the year 2013, Autonomous in the year 2013-14 and NAAC accredited.

The Chairperson and the members of the Governing Body have felt the need of preparing a strategic development plan for the institution in a formal written document format. The mandate was given to the Principal to develop strategic plan 2019-2024 for the institution. The management & top leadership team met and brain stormed on SWOT and stake holders expectations. The Leadership team met a number of times, deliberated in detail and arrived at vision, mission, quality policy and core values for SITAMS. Environment scanning was done keeping vision in mind. The team also discussed about Institutes strategic High Level Goals (USG/HLG) to be achieved by 2024.

Academic institutions have been the bedrock for research for a very long time. At these places, the good teaching-learning and research go hand-in-hand. They are the two sides of the same coin. It is evident that for effective teaching, research is essential. The learning outcomes for the students who undergo research-based teaching are better and leading to a high rate of progression to higher education, research and career. The institution though predominantly a teaching-learning institution has been considering research as one of its prime growth verticals. Thus a conscious effort is made to prepare an objective policy to promote, monitor and evaluate development of the Institute.

Institution strategic goals formed the main theme for arriving at strategies, sub strategies and road to accomplish them. Each Strategy was deliberated and sub-strategies were arrived towards implementation

plan. Implementation plan worked out all details such as budget, resources needed and leaders responsible to implement with time lines. This implementation is separately maintained by the head of the institution.

Departments play a pivotal for the institution; hence each department worked out on their vision, mission and short, mid & long term goals. The implementation plan for the departments also reflected all details such as budget, resources needed as well as leader responsible with time lines. HODs form the core team for implementing departmental goals under the guidance of Deans/ Principal.

Strategic Development Plan emphasizes on evaluation measures, monitoring team along with deviation steps if any over a period of time. The evaluative components for each stake holder are clearly spelt out along with periodicity of performance evaluation reviews.

ABOUT THE DEPARTMENT:

Artificial Intelligence (AI) is an emerging area of Computer Science & Engineering (CSE). The increasing importance of Artificial Intelligence motivated SITAMS to offer a B.Tech Computer Science & Engineering (CSE) course with specialization in Artificial Intelligence from the year 2021 with an intake of 60, the intake is increased to 90 in the year 2022, the intake further increased to 120 in the year 2023 and the current intake is 180 from the year 2025.

The CSE(AI) program's objective is to create exceptionally well AI engineers who will transform the world through creative AI solutions. This course is designed to the students who are looking for bright career and challenging jobs in industrial world. AI engineers are the highly paid professionals in the world and there is a tremendous demand of AI experts in most of areas which needs transformation.

The Department is headed by Prof. M.E. Palanivel., M.E., He has more than two decades of teaching and research experience and published 24 research articles in reputed National and International journals. There are 10 faculty members in the Department who possess quality teaching with a passion towards high quality research. They are also knowledgeable, hard-working, earnest and adoptable, well-informed and dosed with a sense of responsibility.

The students shall be industry ready after practicing these AI based algorithms, techniques and tools and their applications to varies industries. The students will explore the practical components of developing

AI apps and platforms. This degree will give expertise in problem solving, analytical skills along with the ability to design intelligent solutions for various business problems.

The goal of the department is meant to equip the students with the appropriate tools in order to survive this age of fierce competition and specialization. The department encourages a symbiosis of Thought, Word and Action through its unique, innovative and career-oriented programes. The department continuously plans to raise a cadre of exceptional professionals to ensure delivery of excellent skills to the industry they are absorbed in.

ABOUT THE WORKSHOP

The Six-Day Workshop on Artificial Intelligence is a comprehensive, practice-oriented program designed to provide participants with in-depth knowledge of modern AI techniques, with a strong emphasis on deep learning, explainability, and real-world applications. The workshop bridges theoretical foundations with hands-on insights into how AI systems are built, interpreted, and deployed across diverse domains.

The program begins with Explainable AI (XAI), highlighting the importance of transparency, trust, and accountability in AI-driven decision-making. Participants will explore intrinsically interpretable models, post-hoc explanation techniques, and visualization-based approaches to understand and interpret complex deep learning models.

The workshop further delves into Deep Learning in Action, showcasing real-world applications and innovations across multiple sectors. Advanced topics such as Transformers in Practice for modern Natural Language Processing, AI for Robotics using deep learning-driven perception and control, and Predictive Analytics with Deep Learning for Finance provide domain-specific exposure.

Emerging applications are addressed through sessions on Intelligent IoT, demonstrating how deep learning enables smart devices and interconnected systems, and Generative AI, focusing on creativity, content generation, and innovative AI-driven design. The workshop concludes with Explainable Deep Learning, reinforcing the principles of interpretability and trustworthy AI for ethical and responsible deployment.

Overall, this six-day workshop equips participants with both conceptual clarity and practical insights,

preparing them to design, evaluate, and deploy intelligent systems that are not only powerful but also transparent and reliable.

OBJECTIVES OF THE WORKSHOP:

The primary objectives of the **Six-Day Workshop on Artificial Intelligence** are to:

1. **Provide strong conceptual foundations** in Artificial Intelligence and Deep Learning, enabling participants to understand core principles and modern AI architectures.
2. **Introduce Explainable AI (XAI) concepts and techniques**, emphasizing the need for transparency, interpretability, and trust in AI-driven systems.
3. **Familiarize participants with intrinsically interpretable models**, post-hoc explanation methods, and visualization-based approaches for understanding complex deep learning models.
4. **Expose participants to real-world applications of deep learning**, highlighting innovations and practical use cases across multiple domains.
5. **Develop proficiency in modern NLP techniques**, particularly transformer-based models and their applications in language understanding and generation.
6. **Demonstrate the role of deep learning in robotics**, focusing on perception, control, and intelligent decision-making.
7. **Enhance analytical skills in predictive modeling**, especially for financial data using deep learning-based predictive analytics.
8. **Explore Intelligent IoT systems**, showcasing how deep learning enables smart devices, automation, and interconnected systems.
9. **Introduce Generative AI techniques**, fostering creativity and content generation through advanced deep learning models.
10. **Promote ethical, responsible, and trustworthy AI practices**, ensuring participants can design and deploy AI systems that are interpretable, reliable, and socially responsible.

RELEVANCE OF THE WORKSHOP

The rapid advancement of **Artificial Intelligence and Deep Learning** has transformed industries such as healthcare, finance, robotics, IoT, and natural language processing. However, the growing complexity of

AI models has raised critical concerns regarding **interpretability, transparency, and trustworthiness**. This workshop is highly relevant as it addresses both **cutting-edge AI technologies** and the emerging need for **Explainable and Trustworthy AI**.

By covering topics such as **Explainable AI, transformer-based NLP models, robotics, intelligent IoT, generative AI, and predictive analytics**, the workshop aligns with current industry demands, research trends, and national initiatives promoting ethical and responsible AI. It bridges the gap between **theoretical knowledge and real-world applications**, making it particularly relevant for students, researchers, and faculty in AI-related disciplines.

BENEFITS OF THE WORKSHOP

Participants of the workshop will benefit in the following ways:

1. Gain **comprehensive exposure to modern AI and deep learning techniques** used in real-world applications.
2. Develop a clear understanding of **Explainable AI concepts**, enabling them to interpret and validate complex AI models.
3. Learn practical approaches to implement **interpretable models, post-hoc explanation methods, and visualization techniques**.
4. Acquire domain-specific knowledge in **NLP, robotics, finance, IoT, and generative AI**, enhancing interdisciplinary competence.
5. Improve **problem-solving and analytical skills** through case studies and application-driven discussions.
6. Strengthen **ethical awareness and responsible AI practices**, ensuring trustworthy deployment of AI systems.
7. Enhance **career readiness and research capability** by aligning skills with current industry and academic expectations.

OUTCOMES OF THE WORKSHOP

At the end of the workshop, participants will be able to:

1. **Understand and apply core AI and deep learning concepts** in practical scenarios.
2. **Design and interpret AI models** using Explainable AI techniques to ensure transparency and trust.
3. **Implement transformer-based NLP models** for language understanding and generation tasks.
4. **Apply deep learning techniques** in robotics, finance, intelligent IoT, and other real-world domains.
5. **Develop generative AI solutions** for creative content generation and innovation.
6. **Evaluate AI models critically** with respect to interpretability, fairness, and reliability.
7. **Adopt ethical and responsible AI practices**, contributing to the development of trustworthy intelligent systems.

The Inaugural program of Domain Specific Workshop:

The **Department of Computer Science and Engineering (Artificial Intelligence)**, Sreenivasa Institute of Technology and Management Studies (SITAMS), Chittoor, successfully organized a **domain-specific workshop on Artificial Intelligence** from **15.12.2025** onwards. The workshop was formally inaugurated on **15th December 2025 at 9:00 AM** at the **Sathya Kesav Gallery, SITAMS, Chittoor**.

The program commenced with a warm welcome to the dignitaries, faculty members, and students. The workshop was organized exclusively for the **III Year B.Tech CSE (AI) students of Sections A and B**, with the objective of enhancing their domain knowledge and practical understanding of Artificial Intelligence concepts and applications.

The **inaugural address** was delivered by **Prof. M. E. Palanivel**, **Head of the Department, CSE (AI)**. In his address, he emphasized the importance of Artificial Intelligence in the present technological era and motivated students to actively engage in learning advanced AI concepts. He highlighted how AI plays a crucial role across various industries such as healthcare, finance, education, automation, and research, encouraging students to build strong technical foundations and pursue innovation-driven careers.

Chittoor, Andhra Pradesh, India 🇮🇳
63ww+whp, Chittoor, Andhra Pradesh 517127, India
Lat 13.247551° Long 79.096452°
Monday, 15/12/2025 03:38 PM GMT +05:30

The workshop featured **Dr. V. Gomathi**, **Veltech Deemed University, Chennai**, as the **resource person**. The dignitary was introduced to the audience, and her expertise in Artificial Intelligence and related research domains was highlighted. Dr. V. Gomathi expressed her enthusiasm in interacting with the students and shared insights into the evolving trends and real-world applications of Artificial Intelligence.

The inauguration concluded with a vote of thanks, acknowledging the efforts of the management, organizing committee, faculty coordinators, and student participants for making the event successful. The session set a positive and enthusiastic tone for the subsequent technical sessions of the workshop.

The inaugural program was well-received by the students, who actively participated and showed keen interest in gaining hands-on exposure and deeper understanding of Artificial Intelligence through the workshop.

Day–1 Report (15.12.2025)

Time: 9:00 AM – 12:00 PM & 1:00 PM – 4:00 PM

Topic: *Explainable AI and Its Applications*

Resource Person: Dr. V. Gomathi, Veltech Deemed University, Chennai

The **Day–1 session** of the domain-specific workshop on **Artificial Intelligence** was conducted on **15th December 2025** at **SITAMS, Chittoor**. The session was handled by **Dr. V. Gomathi**, Veltech Deemed University, Chennai, who delivered an in-depth lecture on the topic **"Explainable AI and Its Applications."**

The morning session, held from **9:00 AM to 12:00 PM**, focused on introducing the fundamental concepts of **Explainable Artificial Intelligence (XAI)**. Dr. V. Gomathi explained the need for explainability in AI

systems, especially in critical domains such as healthcare, finance, and autonomous systems. She discussed the limitations of black-box models and emphasized the importance of transparency, interpretability, fairness, and trust in AI-driven decision-making.
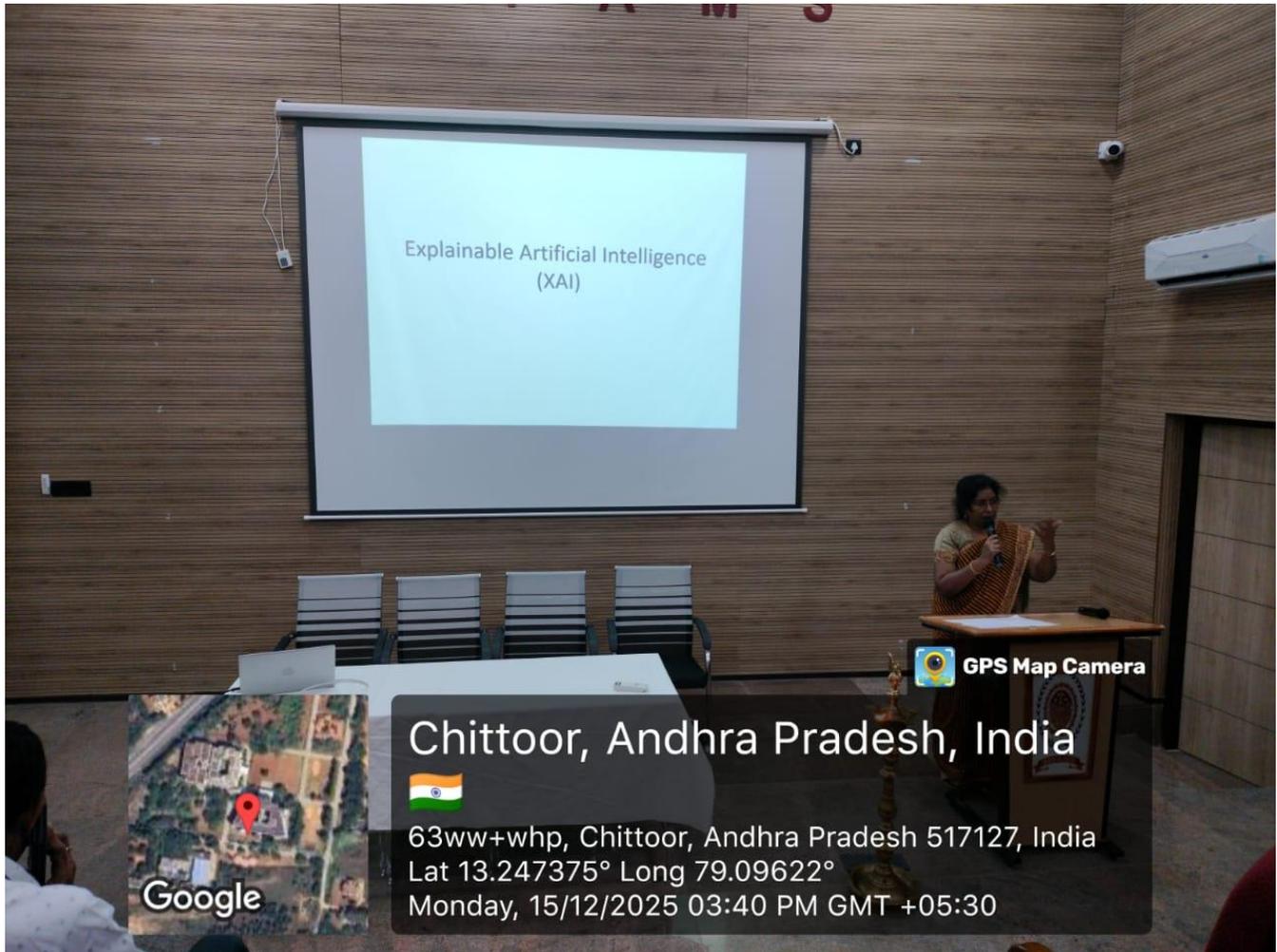
In the afternoon session, from **1:00 PM to 4:00 PM**, the resource person elaborated on various **Explainable AI techniques and methodologies**. The session covered **intrinsically interpretable models**, **post-hoc explanation methods**, and **visualization-based approaches** used to interpret machine learning and deep learning models. Real-world case studies and application scenarios were presented to help students understand how XAI techniques are applied in practical systems.

Dr. V. Gomathi also demonstrated how explainability enhances model accountability and supports ethical and responsible AI development. The sessions were interactive, with students actively participating by

asking questions and engaging in discussions. The resource person clarified student queries and encouraged them to explore XAI tools and frameworks for future projects and research.

The Day–1 sessions concluded with valuable insights into the significance of Explainable AI, equipping students with foundational knowledge essential for building transparent and trustworthy AI systems.

Day–2 Report (16.12.2025)

Time: 9:00 AM – 12:00 PM & 1:00 PM – 4:00 PM

Topic: *"Deep Learning in Action: Real-World Applications and Innovations"*

Resource Person: Dr. G. Gopichand, Associate Professor, **VIT, Vellore**

The **Day–2 session** of the domain-specific workshop on **Artificial Intelligence** was conducted on **16th December 2025** at **SITAMS, Chittoor**. The session was led by **Dr. G. Gopichand**, Associate Professor, VIT, Vellore, who delivered an insightful and application-oriented lecture on the topic **"Deep Learning in Action: Real-World Applications and Innovations."**

The **forenoon session (9:00 AM – 12:00 PM)** focused on the fundamentals and evolution of **Deep Learning**. Dr. G. Gopichand explained the architecture and working principles of deep neural networks, including **Artificial Neural Networks (ANNs)**, **Convolutional Neural Networks (CNNs)**, and **Recurrent Neural Networks (RNNs)**. He emphasized how deep learning has transformed problem-solving in areas such as image recognition, speech processing, natural language understanding, and autonomous systems.

During the **afternoon session (1:00 PM – 4:00 PM)**, the resource person highlighted **real-world applications and recent innovations in deep learning**.

Practical use cases from healthcare diagnostics, intelligent transportation systems, recommendation systems, fraud detection, and smart manufacturing were discussed in detail. Dr. G. Gopichand also shared insights into emerging trends such as **transformer models**, **deep reinforcement learning**, and **edge AI**.

The session included discussions on challenges in deep learning, such as data dependency, computational complexity, and model generalization. Students were introduced to best practices in model training, optimization techniques, and evaluation metrics. The interactive nature of the session encouraged students to actively participate, ask questions, and explore how deep learning solutions can be applied to academic projects and real-time problems.

The Day–2 sessions significantly enhanced the students' understanding of deep learning concepts and their practical relevance, inspiring them to innovate and apply advanced AI techniques in real-world scenarios.

Day–3 Report (17.12.2025)

Time: 9:00 AM – 12:00 PM & 1:00 PM – 4:00 PM
Venue: Seminar Hall, Mechanical Block, SITAMS, Chittoor
Topic: *Interpretable Models and Explainable AI Techniques*
Resource Person: Dr. V. Gomathi, Veltech Deemed University, Chennai

The **Day–3 session** of the domain-specific workshop on **Artificial Intelligence** was conducted on **17th December 2025** at the **Seminar Hall, Mechanical Block, SITAMS, Chittoor**. The session was handled by **Dr. V. Gomathi**, Veltech Deemed University, Chennai, who delivered an advanced and comprehensive lecture on the topic **"Interpretable Models and Explainable AI Techniques."**
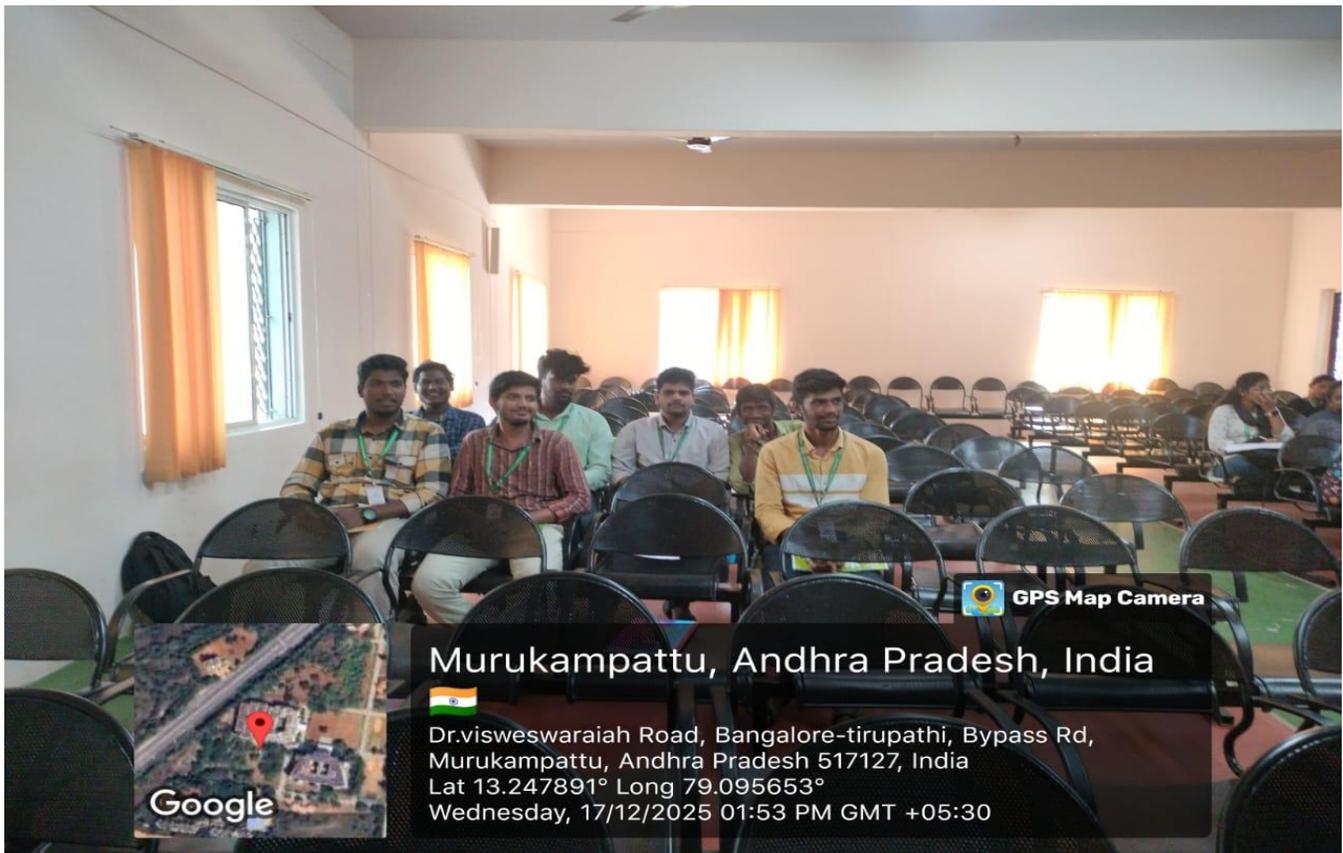
The **forenoon session (9:00 AM – 12:00 PM)** focused on **intrinsically interpretable machine learning models**. Dr. V. Gomathi explained models such as **linear and logistic regression**, **decision trees**, **rule-based systems**, and **generalized additive models (GAMs)**. She highlighted the trade-off between model

accuracy and interpretability and discussed scenarios where interpretable models are preferred over complex black-box models, particularly in high-stakes applications.

During the **afternoon session (1:00 PM – 4:00 PM)**, the resource person elaborated on various **Explainable AI (XAI) techniques** used to interpret complex machine learning and deep learning models. The session covered **post-hoc explanation techniques** such as **LIME**, **SHAP**, **feature importance methods**, and **counterfactual explanations**, along with **visualization-based approaches** for model interpretation. Practical examples and case studies were presented to demonstrate how these techniques help in understanding model behavior and decision-making processes.

Dr. V. Gomathi also emphasized the role of explainability in ensuring **ethical, fair, and accountable AI systems**. The session included interactive discussions where students raised questions regarding model transparency, bias detection, and regulatory compliance. The resource person addressed these queries effectively, encouraging students to apply interpretable and explainable techniques in their academic projects and future research work.

The Day–3 sessions provided students with a deeper understanding of interpretable models and Explainable AI techniques, strengthening their ability to design transparent and trustworthy AI solutions.

Day–4 Report (18.12.2025)

Time: 9:00 AM – 12:00 PM & 1:00 PM – 4:00 PM

Venue: Seminar Hall, Mechanical Block, SITAMS, Chittoor

Mode: Online

Topic: *AI in Medical Applications*

Resource Person: Dr. K. Arivu Selvan, Professor, **VIT University, Chennai**

The **Day–4 session** of the domain-specific workshop on **Artificial Intelligence** was conducted on **18th December 2025** in **online mode**, with participants assembled at the **Seminar Hall, Mechanical Block, SITAMS, Chittoor**. The session was delivered by **Dr. K. Arivu Selvan**, Professor, VIT University, Chennai, who provided an insightful lecture on the topic **"AI in Medical Applications."**

The **forenoon session (9:00 AM – 12:00 PM)** focused on the role of **Artificial Intelligence in the healthcare and medical domain**. Dr. K. Arivu Selvan explained how AI techniques such as **machine learning, deep learning, and computer vision** are transforming medical diagnostics, disease prediction, and clinical decision support systems. He discussed applications including **medical image analysis**, **early disease detection**, **radiology and pathology automation**, and **AI-assisted diagnosis**.

During the **afternoon session (1:00 PM – 4:00 PM)**, the resource person elaborated on **advanced and real-world medical AI applications**. Topics such as **AI in personalized medicine**, **predictive analytics for patient care**, **robot-assisted surgery**, and **remote healthcare monitoring systems** were discussed in detail. He also addressed challenges related to **data privacy**, **ethical considerations**, **model reliability**, and **regulatory compliance** in deploying AI-based healthcare solutions.

The session was highly interactive, with students actively participating by asking questions related to medical datasets, clinical validation, and career opportunities in medical AI research. Dr. K. Arivu Selvan encouraged students to pursue interdisciplinary learning by integrating AI with biomedical knowledge and highlighted the scope of research and innovation in healthcare AI.

The Day–4 sessions provided students with valuable insights into the application of Artificial Intelligence in the medical field, motivating them to explore AI-driven healthcare solutions and research opportunities.

Day–5 Report (19.12.2025)

Time: 9:00 AM – 12:00 PM & 1:00 PM – 4:00 PM

Venue: Seminar Hall, Mechanical Block, SITAMS, Chittoor

Mode: Online

Topic: *AI Applications in Natural Language Processing (NLP)*

Resource Person: Dr. A. P. Siva Kumar, Professor, CSE, **JNTUA, Ananthapuramu**

The **Day–5 session** of the domain-specific workshop on **Artificial Intelligence** was conducted on **19th December 2025** in **online mode**, with participants assembled at the **Seminar Hall, Mechanical Block, SITAMS, Chittoor**. The session was handled by **Dr. A. P. Siva Kumar**, Professor, CSE, JNTUA, Ananthapuramu, who delivered an informative lecture on **"AI Applications in Natural Language Processing (NLP)."**

The **forenoon session (9:00 AM – 12:00 PM)** focused on the fundamentals of **Natural Language Processing** and its role in Artificial Intelligence. Dr. A. P. Siva Kumar explained core NLP concepts such as **text preprocessing**, **tokenization**, **stemming and lemmatization**, **part-of-speech tagging**, and **syntactic and semantic analysis**. He also discussed the evolution of NLP from traditional rule-based approaches to **machine learning and deep learning-based language models**.

Murukampattu, Andhra Pradesh, India
Dr.visweswaraiah Road, Bangalore-tirupathi, Bypass Rd, Murukampattu, Andhra Pradesh 517127, India
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Friday, 19/12/2025 11:29 AM GMT +05:30

During the **afternoon session (1:00 PM – 4:00 PM)**, the resource person elaborated on **real-world applications of NLP**. Applications such as **chatbots and virtual assistants**, **sentiment analysis**, **machine translation**, **text summarization**, **speech recognition**, and **information extraction** were explained with suitable examples. He also highlighted the impact of **AI-driven NLP systems** in industries like customer service, healthcare, education, and social media analytics.

The session was interactive, with students actively participating in discussions and clarifying their doubts related to NLP tools, datasets, model training, and evaluation techniques. Dr. A. P. Siva Kumar encouraged students to take up NLP-based projects and research work, emphasizing the growing scope of NLP in both academia and industry.

The Day–5 sessions provided participants with a strong conceptual understanding of NLP and its applications, enabling them to appreciate the role of Artificial Intelligence in processing and understanding human language.

Day–6 Report (20.12.2025)

Time: 9:00 AM – 12:00 PM & 1:00 PM – 4:00 PM

Mode: Online

Topic: *"Explainable Deep Learning: Interpretability and Trustworthy AI"*

Resource Person: Mr. Raghavendra Babu, Project Manager, **Tech Mahindra, Bengaluru**

The **Day–6 session** marked the concluding technical session of the domain-specific workshop on **Artificial Intelligence** and was conducted on **20th December 2025** in **online mode**. The session was delivered by **Mr. Raghavendra Babu**, Project Manager, Tech Mahindra, Bengaluru, who shared valuable industry-oriented insights on the topic **"Explainable Deep Learning: Interpretability and Trustworthy AI."**

The **forenoon session (9:00 AM – 12:00 PM)** focused on the challenges of **interpretability in deep learning models**. Mr. Raghavendra Babu explained why deep neural networks are often considered black-box models and highlighted the importance of explainability in building **trustworthy AI systems**, especially in enterprise and mission-critical applications. He discussed the role of explainable deep learning in ensuring transparency, reliability, and user trust in AI solutions.

During the **afternoon session (1:00 PM – 4:00 PM)**, the resource person elaborated on **practical approaches and tools used in industry** to interpret deep learning models. Topics such as **feature**

attribution methods, **model-agnostic explanation techniques**, **visualization methods**, and **explainability frameworks** were discussed with real-time industry examples.

He also highlighted best practices for deploying explainable AI solutions in production environments while maintaining performance and compliance.

The session was highly interactive, with students actively engaging in discussions related to real-world challenges, ethical AI practices, and career opportunities in AI and data science. Mr. Raghavendra Babu shared his professional experiences and encouraged students to align their academic learning with industry requirements.

The Day–6 session successfully concluded the workshop by bridging the gap between **academic concepts and industry practices** in Explainable Deep Learning and Trustworthy AI, leaving participants with a comprehensive understanding of the importance of transparency and accountability in advanced AI systems.

Valedictory Function

The **Valedictory Function** of the **Six-Day Domain-Specific Workshop on Artificial Intelligence** for **III B.Tech CSE (AI) students** was conducted successfully, marking the formal conclusion of the program.

The workshop provided students with in-depth exposure to emerging AI concepts, tools, and real-world applications, thereby enhancing their technical competence and industry readiness.

The valedictory session was graced by **Dr. N. Venkatachalapathi, Principal**, who appreciated the efforts of the department in organizing a highly relevant and skill-oriented program and encouraged students to apply the acquired knowledge in academics, projects, and research.

Mr. M. E. Palanivel, Head of the Department, highlighted the importance of domain-specific training in Artificial Intelligence and emphasized continuous learning to meet current industry demands.

The workshop was coordinated by **Dr. Munipraveena Rela, DSW Coordinator**, who presented a brief report on the six-day program, outlining the topics covered and the active participation of students. The **Resource Person, Mr. P. Raghavendra Babu**, shared valuable insights and motivated students to explore advanced AI technologies and practical implementations.

The function concluded with the exams on DSW and a vote of thanks, expressing gratitude to the management, resource person, faculty members, and students for their support and participation. The valedictory function marked a successful culmination of an enriching academic initiative.