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Format: 9014/0

A REPORT ON 5-DAY HANDS-ON WORKSHOP ON "ARTIFICIAL INTELLIGENCE IN MATLAB"

Organized by : **Department of Electronics & Communication Engineering**

Association with : **STRIC & BIST Technologies, Vijayawada.**

Name of the Resource Person(s) : **1. Mr. M. Venkatesh, M. Tech., (ECE)**
2. Mr. G. Syam kumar, B. Tech. (CSE)

Designation : **1. Managing Director, Shresta Training Research Institute Center, Vijayawada**
: **2. AI Trainer, Shresta Training Research Institute Center, Vijayawada**

Venue : **VI- 305**

Date(s) : **From 09.09.2025 to 13.09.2025**

Time : **09.30 AM to 4.30 PM**

Name of the Coordinator(s) : **1. Mrs. Y. Lavanya, Associate Professor (ECE) &**
2. Mr. NVDP Murthy, Associate Professor (ECE)

No. of participants : **68**

Conducted for :

Branch	Year	Semester	No of Students Attended
ECE	III	I	68
Total No of Students Attended			68

Profile of the Resource Person
Munnangi Venkata Reddy is a seasoned MATLAB consultant and trainer with over 11 years of experience in academic and industrial project development. He holds an M. Tech., in Digital Electronics and Communication Systems and has successfully completed more than 1500 projects across domains like image processing, machine learning, signal processing, control systems, and optimization. Renowned for mentoring students and Ph.D. scholars, he has conducted numerous workshops and training sessions nationwide, offering expertise in MATLAB, Simulink, and technical documentation. His strong reputation stems from delivering high-quality simulations, guiding research publications, and providing end-to-end project solutions with precision and reliability.
Report in brief by Organizer / Coordinator / Convener
This report provides a comprehensive overview of the 5-day hands-on workshop on "Artificial Intelligence in MATLAB" conducted from 09-09-2025 to 13-09-2025 at department of ECE,

Ramachandra college of Engineering (A), Eluru. The primary objective of this 5-day workshop on *Artificial Intelligence with MATLAB* is to provide participants with a solid foundation in AI concepts while equipping them with practical skills to implement machine learning and deep learning techniques using MATLAB's powerful toolboxes.

The workshop aims to bridge theoretical understanding and hands-on application by introducing AI fundamentals, MATLAB programming essentials, and advanced machine learning methods such as ensemble models, support vector machines, and neural networks. Participants will gain experience in data pre-processing, model training, and evaluation, as well as applying AI techniques to real-world domains like signal processing and computer vision. By the end of the workshop, attendees will be able to confidently use MATLAB to develop, test, and deploy AI models, and they will have completed a mini-project that demonstrates their ability to solve practical problems using AI-driven approaches.

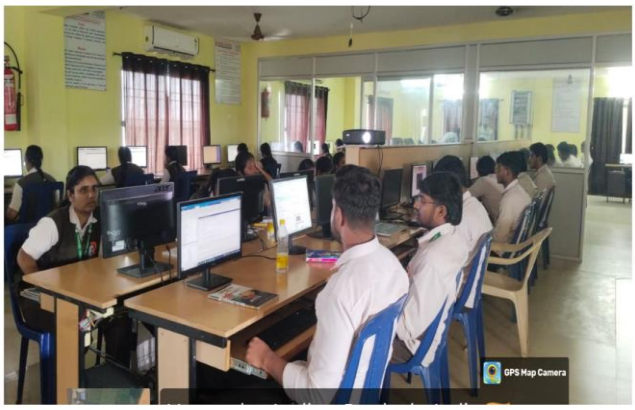
This five-day workshop offers a comprehensive introduction to Artificial Intelligence and its practical implementation using MATLAB. On Day 1, participants explore the fundamentals of AI, including its definition, historical evolution, and core branches such as machine learning, natural language processing, and computer vision, along with ethical considerations in AI development. Day 2 focuses on MATLAB as a tool for AI prototyping, covering its environment, syntax, matrix operations, data visualization techniques, and relevant toolboxes, culminating in a mini project to build a basic AI model. Day 3 dives into supervised learning, introducing key algorithms like Decision Trees, Support Vector Machines, and k-NN, while teaching model evaluation metrics such as accuracy, precision, and recall through hands-on exercises. On Day 4, the focus shifts to unsupervised learning and optimization strategies, including clustering methods like k-Means and PCA, feature engineering, and hyperparameter tuning, with practical applications on real datasets. Finally, Day 5 introduces neural networks and their architecture, guiding participants through building and training models using MATLAB's Deep Learning Toolbox and exploring deployment strategies. The workshop concludes with a capstone project, enabling participants to apply their knowledge in developing an end-to-end AI solution, thereby equipping them with both conceptual understanding and technical expertise for future academic or professional pursuits in AI and machine learning.

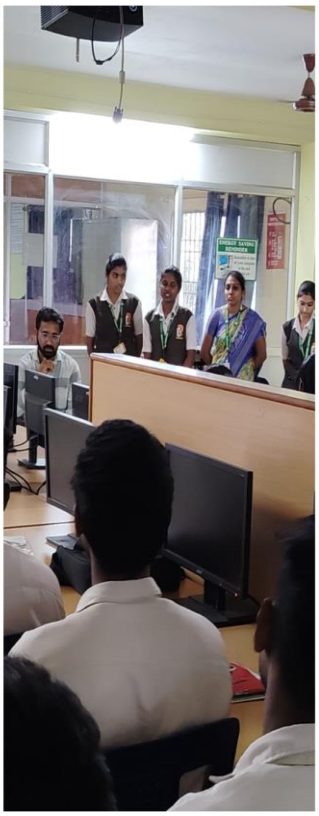
Poster of the Event

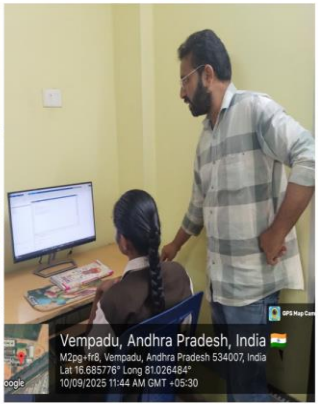
Few Glimpses of the event:









4. Feedback from Participants

"The workshop gave me a strong introduction to Artificial Intelligence and how it can be implemented in MATLAB. I had only basic programming knowledge before, but the step-by-step

sessions and lab exercises helped me understand how to build and test AI models. This hands-on experience was very engaging and boosted my confidence to explore AI further in my mini-projects to be done in the even semester."

…….Kota Rajasekhar. III ECE B

"The workshop was very eye-opening as it introduced me to the world of Artificial Intelligence in a simple and practical way. I enjoyed the hands-on lab sessions where we worked with real datasets, and it was exciting to see how quickly we could build and test AI models in MATLAB. This experience has motivated me to learn more about machine learning and apply it in my upcoming academic projects."

……L. Durga Veneela, III ECE B

"The workshop was informative and gave me a good foundation in AI concepts, but at times the pace felt a bit fast for beginners like me. While I could follow the basics of MATLAB, I struggled slightly during the advanced machine learning sessions. However, the instructors were very supportive and helped clarify doubts, which made the experience valuable overall. With more practice, I feel confident I can now explore AI further on my own."

……Chittibomma Geetha, III ECE C

5. Remarks from the Resource Person

"The students showed a great interest in learning Artificial Intelligence and demonstrated commendable problem-solving skills during the lab sessions and project work. Their ability to collaborate and adapt to new tools reflects strong potential for future academic and industry contributions."

“I believe that this workshop has equipped the participants with the necessary skills to embark on exciting projects and contribute to the growing field of technology.”

"We encourage the participants to continue exploring AI and MATLAB beyond this workshop. The knowledge gained here should serve as a strong foundation for academic projects, internships, and professional careers in AI-driven fields.

"I would like to thank the management and organizers for inviting me to be part of this workshop and for providing a supportive and conducive learning environment."

…….Mr. M. Venkatesh.

Coordinator(s) HoD Dean- Academics Principal