

A Report on Two Day Hands-on Workshop "AI for Beginners: from Data to Decisions"

Organized by Department of Computer Science & Engineering (Data Science)

In association with ISTE-MITS

From 14.02.2025 to 15.02.2025



MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS INSTITUTION)
Madanapalle - 517325, Annamayya Dist., Andhra Pradesh, India

A Two day Hands-on workshop
on
"AI for Beginners: from Data to Decisions"
Organized by
Department of CSE (Data Science)
in association with the Indian Society for Technical Education (ISTE)

Resource Person

Date : 14/02/2025 - 15/02/2025
Time : 10:00 AM to 4:00 PM
Venue : WB-219

Mr. Y. Prashanth Kumar
Associate Consultant & AI Expert,
MSG global solutions, Tirupati.

Chief Patron	Patron	Program Chair	Convener	Co-ordinator
Dr. N. Vijaya Bhaskar Choudary Secretary & Correspondent	Mrs. Keerthi Nadella Executive Director	Dr. C. Vararaj Principal	Dr. S. Kusuma Asst. Prof. & Head	Mrs. Roopa R Assistant Professor

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Report Submitted by: Mrs Roopa R, Assistant Professor, Department of Computer Science & Engineering (Data Science).

Resource Person Details: Mr. Y. Prashanth Kumar, Associate Consultant & Ai Expert, MSG global solutions, Tirupati.

Venue: WB-219 Lab and Time: 10:00 AM to 4:00 PM

Mode of Conduct: Offline

Report Received on 24.02.2025.

Event Overview:

The Department of Computer Science & Engineering (Data Science), in association with ISTE, organized a two-day hands-on workshop on "AI for Beginners: From Data to Decisions." The event aimed to equip students with fundamental knowledge and practical skills in Artificial Intelligence, covering key aspects from data handling to decision-making using AI techniques. The sessions provided insights into AI's role in various sectors, hands-on exposure to ML models, and guidance on how to build AI-driven solutions.

Day 1: Inauguration and Workshop Session (14th February 2025)

The event began with a welcome address by student Abdul Kalam. He then invited the event coordinator, Mrs. Roopa R, Assistant Professor from the Department of CSE (Data Science), to deliver the welcome speech. Mrs. Roopa R provided a brief overview of the event proceedings. Following this, Abdul Kalam invited the Head of the Department, CSE (Data Science), Dr. S. Kusuma, to address the gathering. Dr. S. Kusuma highlighted the significance of AI and the responsibilities involved in creating a safe and resilient digital environment. She emphasized the value of the workshop and encouraged students to actively engage by asking questions and participating in discussions. Finally, Abdul Kalam introduced the resource person to the participants.

Key Note/ Resource Person Address:

Mr. Prashanth Kumar Y, a renowned expert in Artificial Intelligence, led a thought-provoking workshop on the topic "AI for Beginners: From Data to Decisions." His session emphasized the importance of understanding AI fundamentals and how data can be leveraged for informed decision-making. He focused on practical applications, demonstrating how AI models process data and generate insights to drive strategic decisions. The session provided participants with hands-on exposure to AI-driven solutions, equipping them with essential skills to explore the field further.



The Workshop highlighted with the following topics:

Day 1: Session 1 & Session 2

The two-day workshop commenced with an insightful introduction to learning, focusing on both human and machine learning. The first session explored various aspects of learning and how knowledge is acquired from different sources.

Session 1: Learning and Machine Learning Fundamentals

Human Learning:

- **Learning from Experts:** Acquiring knowledge from mentors, parents, and experienced individuals.
- **Gaining Knowledge through Exploration:** Actively exploring information and discovering new insights.
- **Self-Learning:** Independent learning through observation, reading, and experimentation.

Machine Learning:

- Defined as a subset of Artificial Intelligence (AI), machine learning enables machines to learn from data without being explicitly programmed.
- Traditional programming follows a structured approach where input, logic, and output are predefined.
- In machine learning models, expected inputs and outputs are provided, and the model predicts the logic.
- **AI vs ML:** AI aims to mimic human intelligence and actions, while ML focuses on automating tasks without explicit programming.
- **Deep Learning:** A subset of ML designed to handle complex problems that ML alone may not solve.

Session 2: Types of Machine Learning & Mini Project

The second session focused on various machine learning paradigms:

- **Supervised Learning:** Uses labeled data to train models for prediction.
- **Regression:** Analyzes relationships between dependent and independent variables.
- **Classification:** Categorizes data into different classes.
- **Unsupervised Learning:** Involves training models on unlabeled data to identify patterns.
- **Reinforcement Learning:** Uses rewards and punishments to optimize model performance.

Mini Project:

A project on **Binary Classification**, where a model was trained using two distinct classes of images or text and tested with sample inputs to classify them accurately.



Day 2: Session 3 & Session 4

Session 3: Unsupervised Learning, Reinforcement Learning, and Chatbot Development

- **Unsupervised Learning:** Focused on extracting patterns from data without predefined labels.
- **Reinforcement Learning:** Introduced principles of reward-based learning, where models improve through trial and error.
- **Chatbot Development:** Covered the basics of chatbot creation and AI-powered conversational models.

Mini Project:

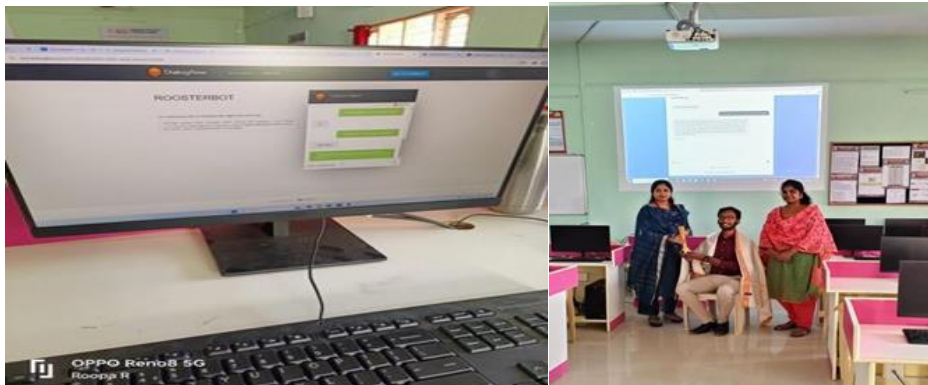
- Participants implemented a **Chatbot**, training it to understand and respond to user queries effectively.

Session 4: ML Lifecycle, LLMs, Chatbase, and Career Guidance

- **Machine Learning Lifecycle:** Discussed the stages of ML development, including data collection, preprocessing, model training, evaluation, and deployment.
- **Large Language Models (LLMs):** Explained the evolution of AI models capable of processing and generating human-like text.
- **Chat Base:** Explored the integration of chatbots with advanced language models.
- **Career Guidance:** Provided insights into career paths in AI and ML, including industry trends and skill development strategies.

Mini Project:

- Hands-on experience with **Chatbase**, where participants created an interactive chatbot with AI capabilities.



Programme Outcomes:

- **The session provides key outcomes for the students as follows:**
- **Enhanced Knowledge of AI & ML Concepts:** Students gained a clear understanding of Artificial Intelligence and Machine Learning, including key differences, applications, and how AI-driven decisions are made.
- **Hands-on Experience with ML Models:** By working on mini-projects, students developed practical skills in implementing machine learning algorithms, such as binary classification and chatbot development.
- **Improved Problem-Solving & Analytical Skills:** Students learned to analyze datasets, identify patterns, and apply ML techniques to solve real-world problems efficiently.
- **Proficiency in AI-Based Tools & Technologies:** The workshop provided exposure to AI tools like Chatbase and Large Language Models (LLMs), enabling students to explore advanced chatbot development.
- **Understanding of the Machine Learning Lifecycle:** Students gained insights into various stages of ML, including data pre-processing, model training, evaluation, and deployment, essential for AI application development.
- **Application of AI in Industry & Career Readiness:** Through expert guidance, students explored AI applications in different industries and received career advice on skills, certifications, and job opportunities in AI and Data Science.
- **Teamwork & Project Implementation Skills:** Collaborative mini-projects helped students enhance their teamwork, coding, and project execution abilities, preparing them for future AI-based projects and research.

The session concluded with a vote of thanks delivered by Mrs. Roopa R. She expressed her gratitude to the resource person for accepting the invitation and sharing valuable insights during the workshop. She also extended her appreciation to the Head of the Department, Dr. S. Kusuma, the Principal, and the Management for their support in organizing and facilitating the event. The session ended with the honorable gesture of Dr. S. Kusuma, Head of the Department, presenting a token of appreciation to the guest.