



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Ensemble Learning Guest Lecture Report

Date(s)	:	24-10-2025
Resource Person	:	Dr. Badal Soni. Assistant Professor, Department of CSE, NIT-Silchar.
Name of Coordinators	:	Mr. K. Venkatesh, Sr. Asst. Professor, Dept. of AI & DS. Mr. R. Siva Narayana, Sr. Asst. Professor, Dept. of AI & DS.
Target Audience	:	III B.Tech. V Sem Students.
Total no. of Participants	:	116
Objective of the Event	:	

- ✓ Understand the fundamentals of Machine Learning concepts
- ✓ Understanding the concepts of Ensemble Learning

Description of the Event:

The Department of Artificial Intelligence & Data Science organized a guest lecture on the topic of "**Ensemble Learning**" for its III B. Tech students. The resource person for the session was **Dr. Badal Soni**, Assistant Professor in the Department of Computer Science & Engineering at the National Institute of Technology, Silchar. The event commenced with an introduction by **Dr. P. Bhagathi**, Head of the AI&DS Department, who extended a warm welcome to all attendees.

Resource Person have discussed the following points:

Dr. Badal Soni's guest lecture delivered a structured foundation in machine learning, covering the following key areas:

1. Core Concepts:

- Definition and high-level scope of Machine Learning.
- Overview of primary learning paradigms: Supervised, Unsupervised, and Reinforcement Learning.

2. Supervised Learning Algorithms:

- Decision Trees: Explaining how they model decisions and their outcomes.
- K-Nearest Neighbours (KNN): Application in both classification and regression tasks.

3. Advanced Ensemble Learning Techniques:

- **Concept of Ensembles**: Combining multiple models to improve predictive performance and robustness.
- **Bagging (Bootstrap Aggregating)**: An introduction to this parallel ensemble method.
- **Boosting Techniques**: A detailed look at sequential ensemble methods, including:
 - **AdaBoost (Adaptive Boosting)**: Focusing on iterative error correction.
 - **Gradient Boosting**: Building models to correct the errors of previous ones using gradient descent.
 - **XGBoost (Extreme Gradient Boosting)**: Highlighting its efficiency, speed, and real-world application dominance.

Throughout the session, Dr. Badal Soni reinforced these complex concepts with illustrative, real-world examples such as using decision trees for loan approval, KNN for recommendation systems, and Gradient Boosting models for predicting house prices effectively bridging the gap between abstract theory and tangible application. This structured and data-rich presentation provided attendees with a clear and actionable roadmap of the modern machine learning landscape. The coordinators, Mr. K. Venkatesh and R. Shiva Narayana, thanked the speaker for his excellent presentation on Ensemble Learning, which provided students with significant knowledge and implementation insights. They also appreciated all the participants for their active engagement during the session.

Feedback/ Suggestions:

All the participants gave very positive feedback. They expressed its outstanding and motivational. This Guest lecture on "Ensemble Learning" met the program objective.

Gallery of the Guest Lecture



Content

Transcript



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Dr. P. Bhagath
(Head of the Department)