PRAGATI ENGINEERING COLLEGE
(AUTONOMOUS)
DEPARTMENT OF CSE (DATA SCIENCE)
DATA ANALYTICS CLUB

20-06-2025

A Report on the Data Analytics Club Activity

As part of the technical activities under the **Data Analytics Club** of the Department of CSE (Data Science), this event was conducted.

Name of the Event: Technical Seminar

Name of the Topic: A Stacking Ensemble Machine Learning

Name of the Speaker: 1. A. Lahari
2. Ch. Prasanna
3. G. Hemasri
4. V. Pravallika
5. K. Mounika

Date of the Event: 20-06-2025

Time of the Event: 03:00 PM TO 04:00 PM

Venue of the Event: EG – 6

A total of 70 students attended this event. All the students have actively participated in the event.

Brief write-up of the event:

As part of a machine learning activity, we worked on the topic **"A Stacking Ensemble Machine Learning Model for Predicting Worker Productivity in the Apparel Sector."** The objective was to accurately predict productivity levels based on various input features such as task type, hours worked, team size, and operational parameters. Real-world dataset from the apparel industry was used for the analysis. The data was preprocessed to handle missing values, normalize features, and prepare it for modeling. Several base models including Decision Tree, Random Forest, and Gradient Boosting were trained and evaluated.

HIGHLIGHTS AND KEY TAKEAWAYS:

- Implemented a machine learning solution using real-world apparel sector data.
- Used multiple algorithms: Decision Tree, Random Forest, and Gradient Boosting.
- Applied a stacking ensemble approach for improved prediction accuracy.
- Ensemble models offer higher accuracy by leveraging the strengths of multiple algorithms.
- Data preprocessing plays a crucial role in achieving reliable model performance.

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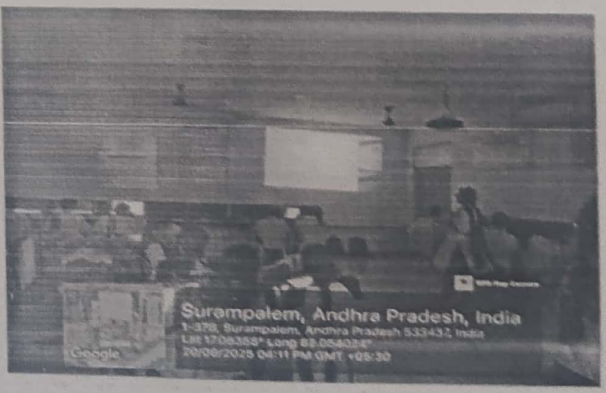
POST-EVENT FEEDBACK:

The session was highly insightful and provided practical exposure to advanced machine learning techniques. Participants appreciated the opportunity to work with real-world data and understand the significance of ensemble models in predictive analytics. The hands-on experience with data preprocessing, model training, and evaluation improved their technical skills and confidence in applying ML to industry-specific problems.

Questions Raised by Students:

- How is stacking different from other ensemble methods like bagging and boosting?
- What criteria should we use to select base models in a stacking ensemble?
- How do we handle overfitting in ensemble models?

PHOTOGRAPHS FROM THE EVENT:



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