

	INNOVATIVE PEDAGOGICAL PRACTICES - REPORT	Doc No:	CAHCET/AD/MCA/CF-04A
		Rev. No & Issue No	00 & 01
		Rev Date:	03.01.2025

Name of Subject & Code: Data Mining & Data Warehousing & MC4020

Year-II / Sem-III

Topic: Classification and Regression

Activity: Flipped Class room

Date of Activity & Venue: 10-Sep-2025 & II MCA Class Room

1. Objective

- To understand the fundamental concepts of **classification and regression** in machine learning.
- To explain the role of **Entropy and Information Gain (IG)** in decision tree-based classification.
- To introduce **Bayes' Theorem and the Naïve Bayes Classifier** using practical examples.

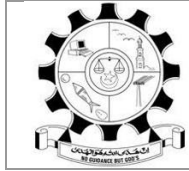
2. Description of the Activity:

An interactive session was conducted for **II MCA students** on **Classification and Regression**, focusing on **Entropy and Information Gain (IG)**. Students were guided through step-by-step demonstrations showing how these measures are used to select attributes and construct decision tree-based classification models.

A real-time dataset discussion was also conducted to explain **Bayes' Theorem and the Naïve Bayes Classifier**. Practical examples were used to demonstrate the application of prior probability and conditional probability in making classification decisions.

3. Outcome

- Students understood the basic concepts of **classification and regression**.
- Students gained knowledge of **Entropy and Information Gain** and their role in decision tree construction.



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- Students understood the principles of **Bayes' Theorem and Naïve Bayes Classification**.
- Students developed better understanding of how machine learning models are applied to **real-world datasets**.

4. Student Feedback:

Students found the session **interactive, informative, and practically relevant**. The step-by-step demonstrations helped them understand the calculation and application of Entropy and Information Gain. The real-time dataset examples made Bayes' Theorem and Naïve Bayes easier to understand. Students actively participated in discussions and problem-solving activities.

5. Conclusion:

The activity successfully enhanced students' understanding of **classification and regression techniques** by combining theoretical explanations with practical examples. The use of decision tree metrics and real-time datasets helped students connect mathematical concepts such as entropy and probability with machine learning applications. The interactive nature of the session encouraged analytical thinking and strengthened students' ability to apply classification techniques to real-world problems.



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