Student Club Participation Prediction

Introduction

Objective: Predict if a student will join a club based on their interest level and free hours per week.

Data Description

Key Features and Target:

* interest_level: Numeric (1-10)

* free_hours_per_week: Numeric

* club_participation: Categorical (yes/no)

Methodology

Steps:

* Encode target variable (yes=1, no=0)

* Split data (80% train / 20% test)

* Train Logistic Regression model

* Hyperparameter tuning (GridSearchCV)

Results

Performance on Test Set:

* Accuracy: 0.75 (example)

* Precision: 0.76

* Recall: 0.74

* F1-Score: 0.75

Future Work

Potential Improvements:

* Add more features: interests, academic load

* Try alternative models: Naive Bayes, Decision Trees

* Perform k-fold cross-validation