Term Project Title:

Prediction of Cumulative grade point average.

Description.

Cumulative Grade Point Average (CGPA) refers to the overall Grade Point Average (GPA), obtained by dividing the total Grade Points (GPs) earned in all courses attempted by the total degree-credit hours in all attempted courses.

- You are required to develop a machine learning system to predict final CGPA of a student at the end of fourth year given GPs of the courses obtained in initial years (up to first, second or third year).
- The dataset to be used is attached with this file with name The_Grades_Dataset.csv.
- You are required to develop and compare several models as per the following description:
    - Model 1: predict final CGPA based on GPs of first year only.
    - Model 2: predict final CGPA based on GPs of first two years.
    - Model 3: predict final CGPA based on GPs of first three years.

Minimum required features.

- Perform all necessary data preprocessing steps on the dataset.
- Implement at least two models from the given models.
- For each model, implement at least two different machine learning algorithms of your choice.
- Also develop a simple interface to allow the user to test your system by providing data for any student and getting predicted final CGPA in return.
- Prepare a report containing all the relevant details and analysis as described in the following section Deliverables.

Deliverables.

- Code on Jupyter Notebook.
    - Develop the code in a single Jupyter notebook.
    - Add comments generously.
- Prepare a report organized as follows:
    - Details of the data preprocessing steps applied.
    - Details of the models and machine algorithm chosen for implementation.
    - Details of any distinguishing features (if any).
    - Tabular or graphical comparison of all the models.
    - Comments on the performance of the implemented machine learning system, including issues like underfitting and overfitting, suggesting any techniques for improvement.