Students Performance Prediction

Data Description

The dataset contained anonymized information relating to 107 enrolled students. The data included students' grades (from 3 mini projects, 3 quizzes and 3 peer reviews and the final overall grade) as well as the course logs. The deadline for the three mini projects fell withinweeks 3, 5 and 8 of the courses, whereas the deadline for the quizzes fell within weeks 2, 4 and 8.

- Status0: course / lectures / content related (Course module viewed, Course viewed, Course activity completion updated, Course module instance list viewed, Content page viewed, Lesson started, Lesson resumed, Lesson restarted, Lesson ended)
- Status1: assignment related (Quiz attempt reviewed, Quiz attempt submitted, Quiz attempt summary viewed, Quiz attempt viewed, Quiz attempt started, Question answered, Question viewed, Submission re-assessed, Submission assessed, Submission updated, Submission created, Submission viewed)
- Status2: grade related (Grade user report viewed, Grade overview report viewed, User graded, Grade deleted, User profile viewed, Recent activity viewed, User reportviewed, Course user report viewed, Outline report viewed)
- Status3: forum related (Post updated, Post created, Discussion created, Some content has been posted, Discussion viewed)
- 9 grades (Week2_Quiz1, Week3_MP1, … Week7_MP3)
- 36 logs (Week1_Stat0, Week1_Stat1, Week1_Stat2, Week1_Stat3, ... Week9_Stat0, Week9_Stat1, Week9_Stat2, Week9_Stat3)

Project description

You need to perform the following tasks and clearly describe them in your report.

Step1- Data Processing

Are there any missing values? What are your features? Are you keeping every feature?

Step 2 – Training & Test Dataset

Divide your data in an appropriate proportion to train and test dataset.

Step 3 – Train the Model

Use two different approaches (one a random forest classifier and one and approach of your choice). How accurate your model predicts the students' final grade and how do these models compare against each other? Which one is better? Could you explain why?

Step 4 – Performance Evaluation

How are your model performing? Do you need to change anything in your model? Visualizethe performance of your models.

Step 5 – Important features

What are the three most important features in predicting students' final grade?