Predictive Module for Student Procrastination in Educational Environments

# Objectives

1. To identify labels for presence of procrastination based on student activities and academic results.

* Clustering to create labels.

1. To predict risk of procrastination before student off-track.

* Logistic Regression, Support Vector Machine, Neural Networks (MLP).

# Activities

1. Feature Engineering & data pre-processing to come up with subset of dataset.
2. Implementation of clustering to generate labels for procrastination.
3. Implementation of predictive models for analyses of student behavior and prediction of procrastination before student off-track.
4. Feature co-efficient visualization for identification of influential features for prediction of procrastination.
5. Data visualization in form of graphs (presence of procrastination for each student) and ML model accuracies.

# OULAD Dataset

## Summary

|  |  |  |  |
| --- | --- | --- | --- |
| Data File | No of Records | Description | Attributes |
| courses | 22 | Information about the courses | code\_module, code\_presentation, module\_presentation\_length |
| studentInfo | 32593 | Contains demographic information about the student | code\_module, code\_presentation, id\_student, gender, region, highest\_education, imd\_band, age\_band, num\_of\_prev\_attempts, studied\_credits, disability, final\_result |
| studentRegistration | 32593 | Registration of the student for a course presentation | code\_module, code\_presentation, id\_student, date\_registration, date\_unregistration |
| assessments | 196 | Assessments for every course presentation | code\_module, code\_presentation, id\_assessment, assessment\_type, date, weight |
| studentAssessments | 173740 | Assessments submitted by the students | id\_assessment, id\_student, date\_submitted, is\_banked, score |
| vle | 6365 | Online learning resources and materials | id\_site, code\_module, code\_presentation, activity\_type, week\_from, week\_to |
| studentVle | 1048575 | Student interaction with the VLE resources | code\_module, code\_presentation, id\_student, id\_site, date, sum\_click (SumOfsum\_click🡪add sum\_click based on id\_student) |