WHAT WILL MY GPA BE?

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Contents

Motivation

- We are interested in combining machine learning with big data.
- We aim to help students to enhance their academic success.
- We aim to enhance our university success.

Problem

- Build a web application which creates a model from existing data to make a prediction for students success.
- Improve results of other related projects.

Analysis

- Related applications;

- Georgia State University - GPS
- Maryland University College - PASS
- Stanford University - Predicting Course Grades

GPS(Graduation and Progression Success)

- The GSU project is about the graduation rates.
- Analyzed grades earned by students in to create a list of factors that hurt chances for graduation.
- Results
  - Graduation rates have increased by 6 points since 2013
  - Graduates take lessons half a semester ago

Predictive Analytics for Student Success

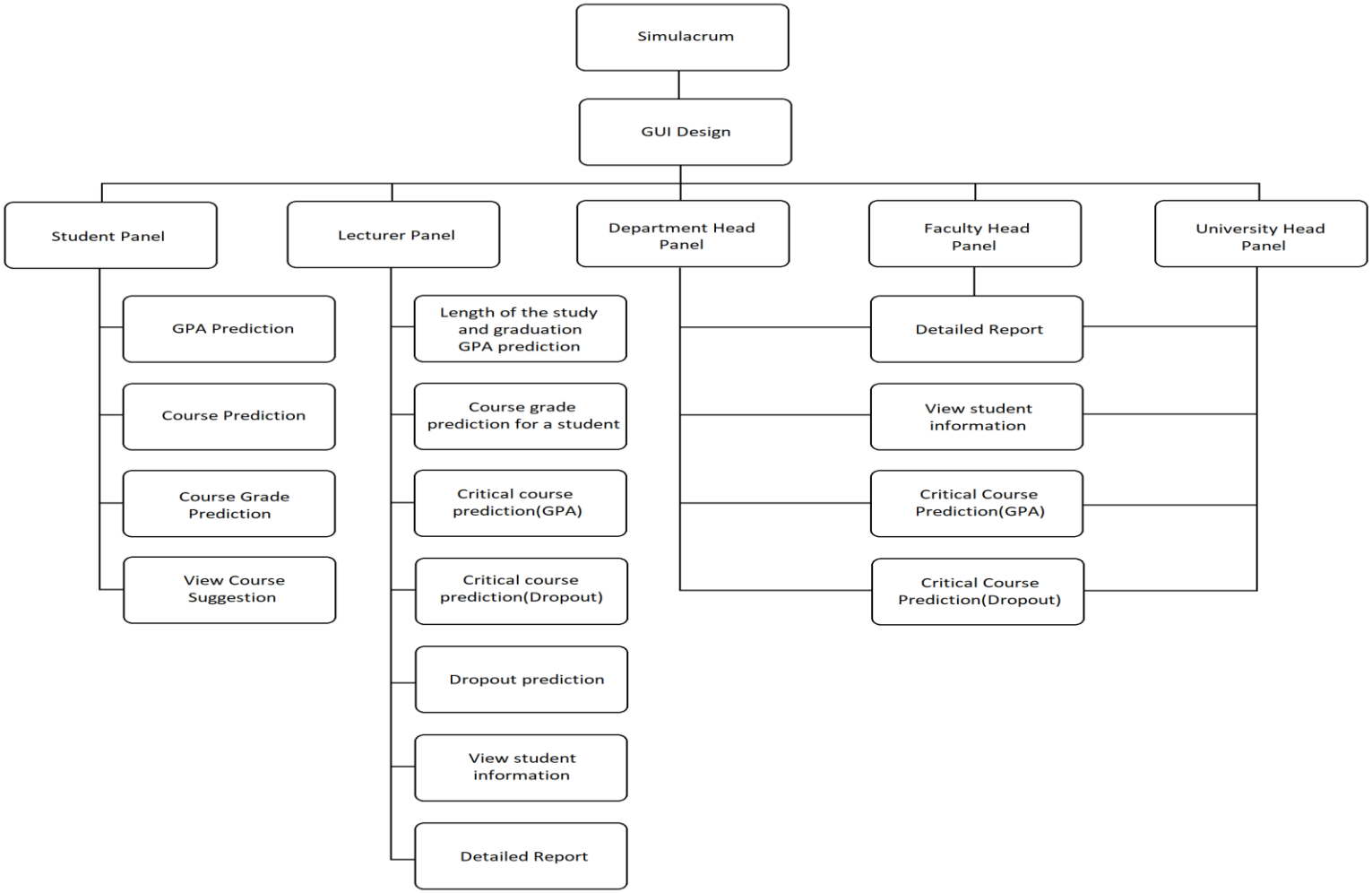
- Analyzed all students who enrolled in Spring 2012 and Spring 2015
- Pass Project aimed to:
  - monitor academic progress
  - identifies success factors
  - implements interventions that encourage student success
- Result
  - Correctly classifying 76.8% of students as having a first class GPA success.

Predicting Course Grades

- Value-Predictor
- Recommendation system (CourseRank)
- Methods
  - Support Vector Machines
  - Collaborative Filtering Techniques

- Result
  - 4 key feature

Block Diagram

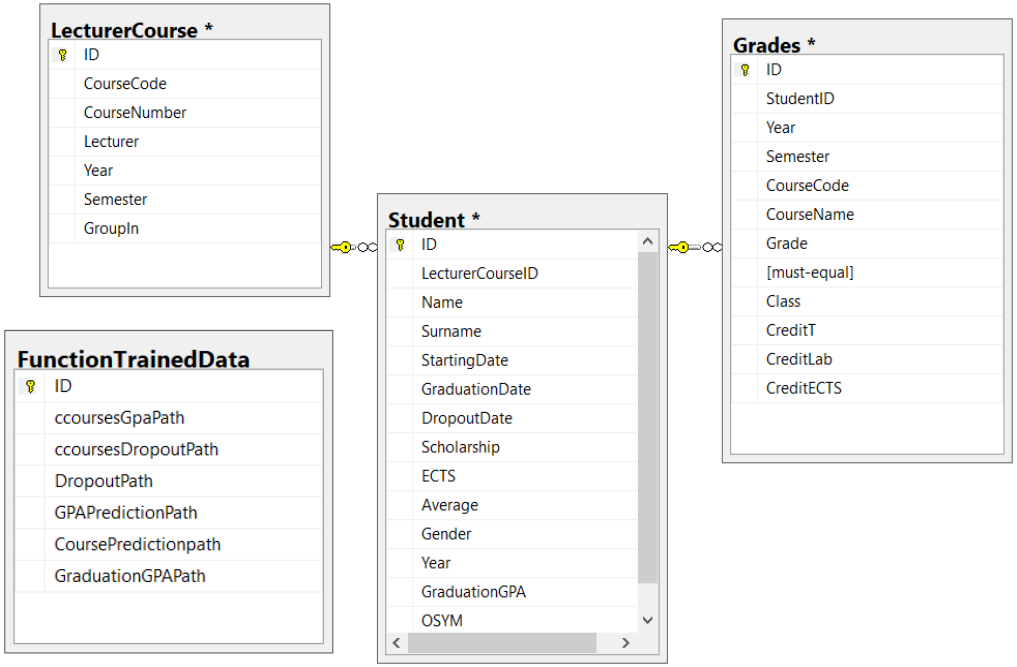


Input / Output

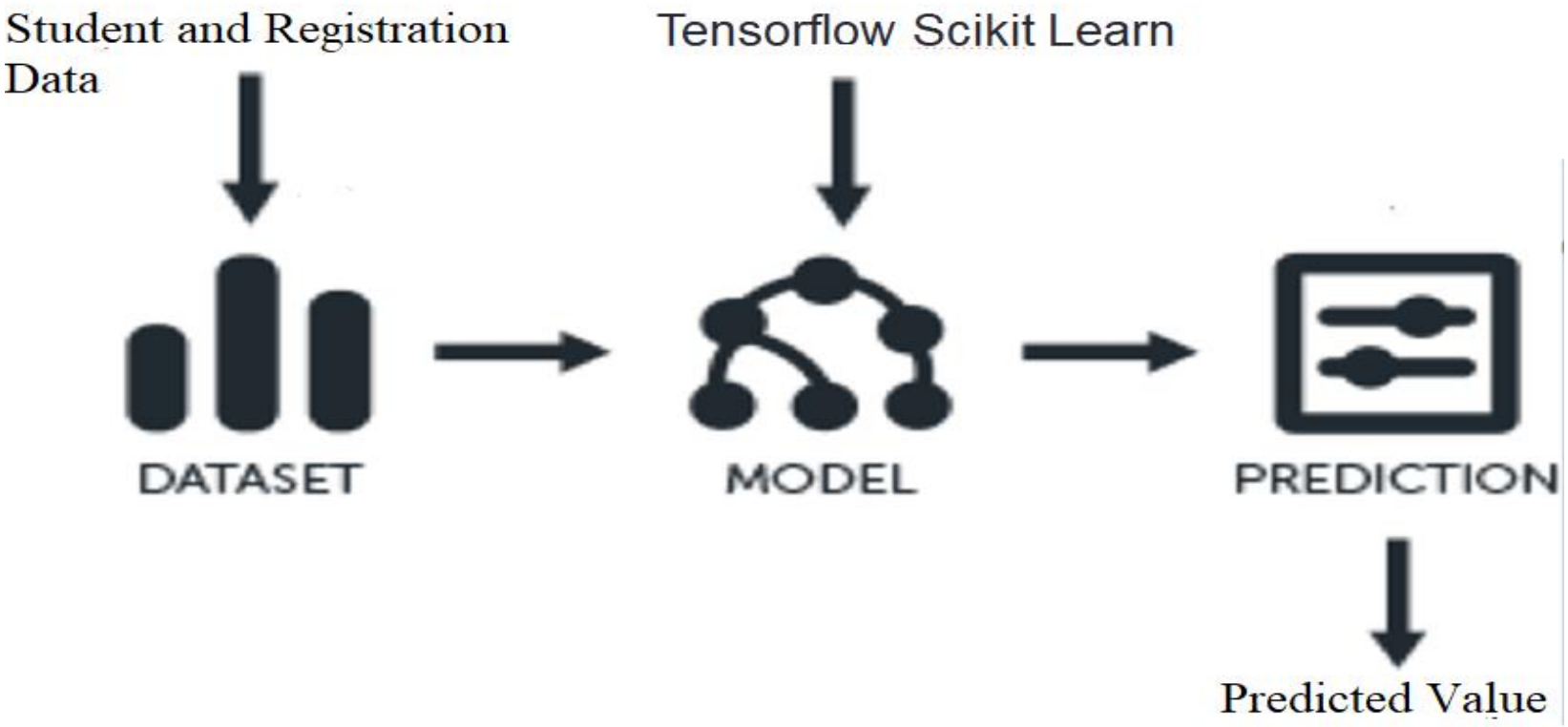
Input	Output
Student Old Grades	Predicted GPA Value
Chosen lesson’s old grades	Predicted Course Grade

Data

- Students
- Grades
- Courses
- Lecturer
- Function Trained Data

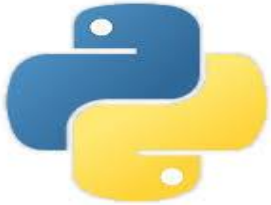


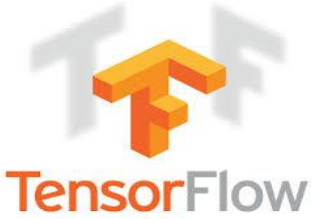
Model


Student and Registration Data
Tensorflow Scikit Learn
DATASET
MODEL
PREDICTION
Predicted Value

Technologies

- We use many new technologies;
  - Pyhton
  - MSSQL
  - Kibana
  - Tensorflow





Results and Conclusions

- Increased student achievement
- Increased university achievement
- Increased communication between advisor and student

Results and Conclusions

Disadvantage:

- Preprocess
- Maintenance

Advantages:

- Access to statistics
- Be aware of the student future success
- Easy to use

Future Works

- Create model from big data
- Build Web Application

References

- 1. http://www.umuc.edu/documents/upload/developing-data-driven-predictive-models-of-student-success-final.pdf
- 2.http://www.npr.org/sections/ed/2016/10/30/499200614/how-one-university-used-big-data-to-boost-graduation-rates
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Thank you for listening!