



Predicting Students Dropout Rate

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Overview

- Project Objective
- Background
- Understanding the Data
- The Process
- Results
- Caveats
- Future Work



Objective:

Reduce Dropout Rates

- Understand Reasons for Dropout
- Predictive Model
- Pair with Student Services

Background

- Dropout Term Includes Changing Degree
- Portugal Below OECD Average for Tertiary Education Completion
- Dropout Rates have been Decreasing



The Data

- Demographic
- Socioeconomic
- Macroeconomic
- 4,424 Students
- 37 Features
- 2008-2019
- Polytechnic Institute of Portugal



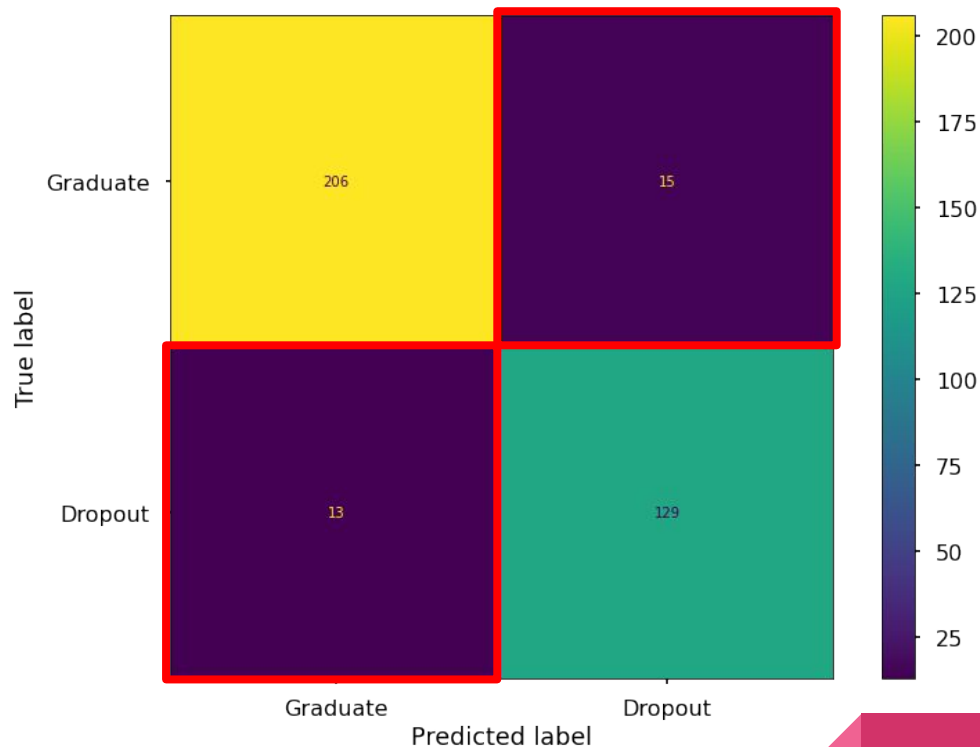
The Process

- Source Data
- Data Preprocessing
- Data Augmentation
- Iterative Modeling
- Final Model Selection & Evaluation



Results

- Recall: 91%
- Precision: 89%
- False Negative more detrimental



Caveats

- Black Box Model
- Some Reasons for Dropout are Beyond the Scope of Student Services
- Final Model uses up to 2nd Second Semester reports



Web App Demo

- NLP Summary Model
- Classification Model



Future Work

- Deploy Predictive Model



The End

Any Questions?

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Github:

https://github.com/DivisiBULL/predicting_student_outcome

Sources
