How to find Easy GEs

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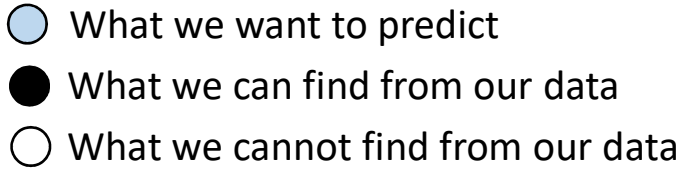
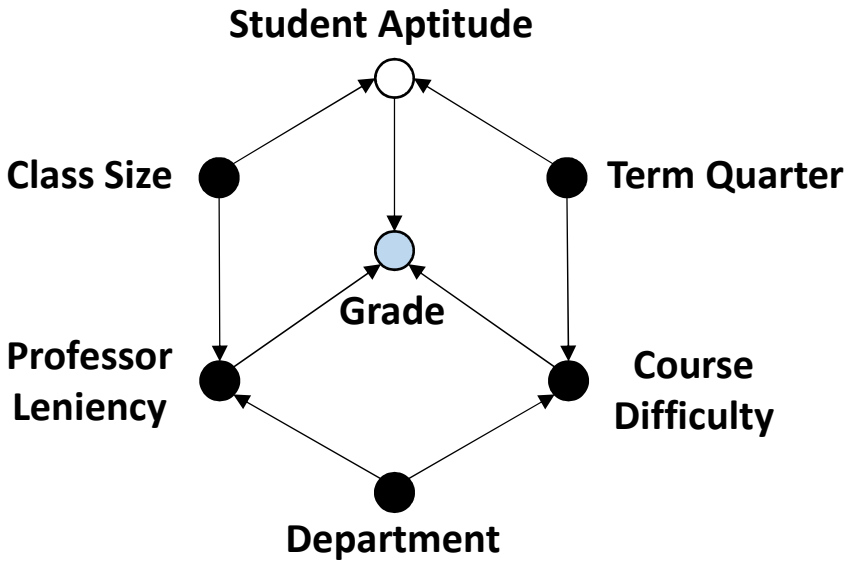
Motivation

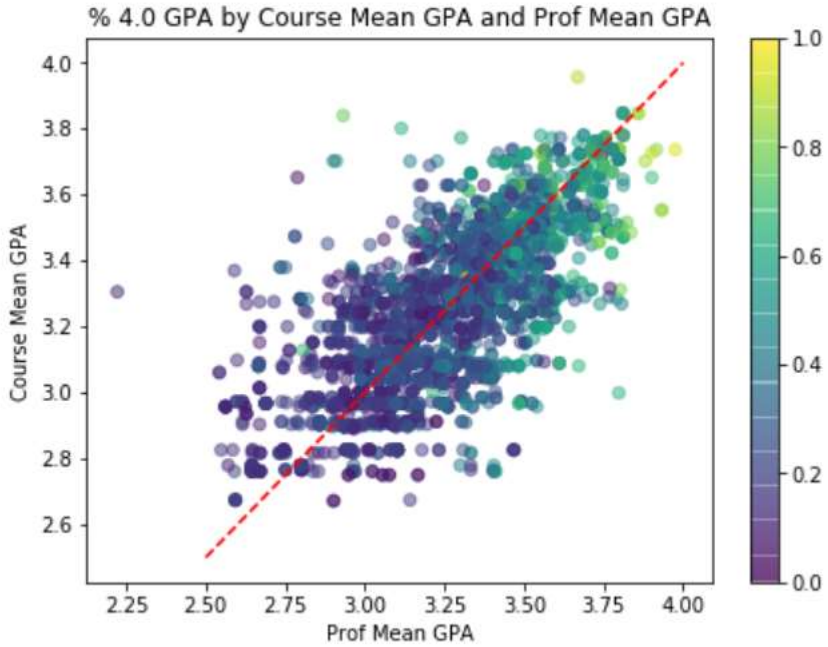
- Students want to get good grades for GEs
  - Good grades achieving a GPA of 4.0
- Earlier studies use Course Difficulty as an indicator
  - Hence the term “easy GE”
- But good grades are also determined by other factors





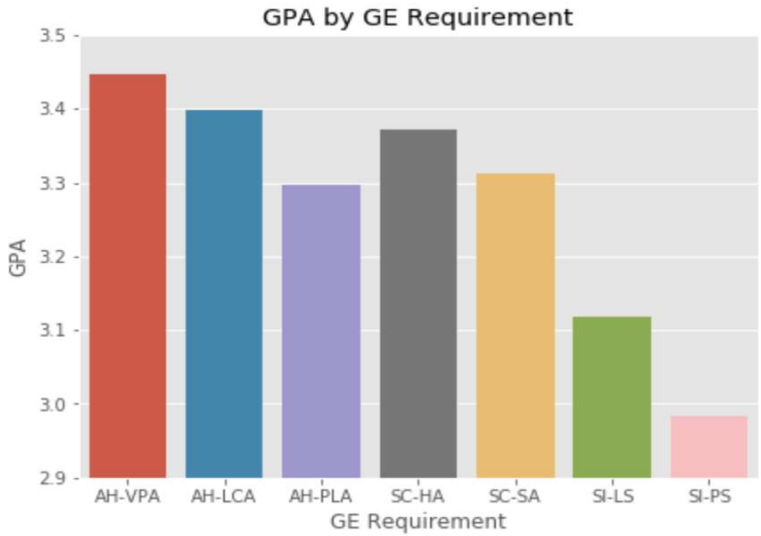
Exploration

- Used data from Bruinwalk.com
- Used mean GPA as numeric indicator of
  - Professor Leniency
  - Course Difficulty
- Important Variables
  - A professor's mean GPA
  - A course's mean GPA
  - Department
  - Term Quarter



Modeling

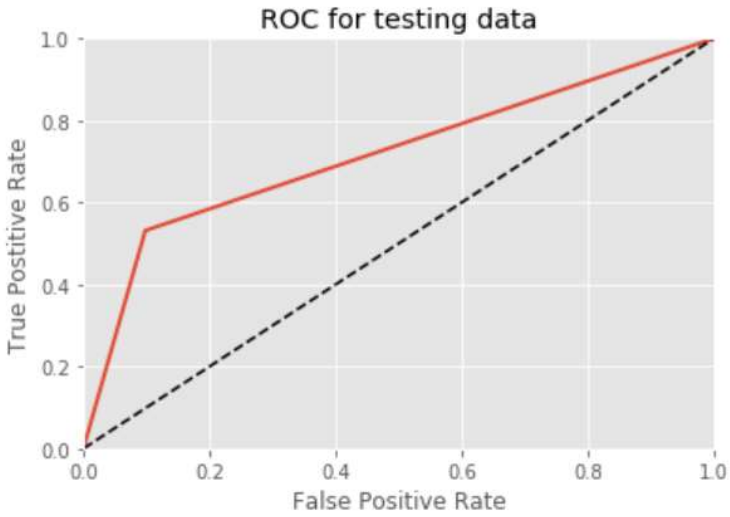
- Used % of 4.0 GPAs as outcome variable
  - If % 4.0 GPA is in the top 25% of all GEs, the course was “easy”
  - Otherwise, the course was “not easy”
- Predictor Variables
  - Department
  - Professor Leniency
  - Course Difficulty
  - Term Quarter
  - Professor Frequency
  - Class Size



- Performed supervised classification using Random Forest
  - Limited GE dataset to Foundations of Scientific Inquiry

Results

- Our model correctly labeled 80.53% of test cases
  - Correctly labeled 90.12% of “non-easy” science GEs
  - Correctly labeled 53.16% of “easy” science GEs
- Significance scores revealed top 3 factors:
  - Professor Leniency
  - Course Difficulty
  - Class Size



Further Research

- Expanding to include all GEs
- Adding student characteristics to the model
  - Student major
  - Student GPA
  - Student race/gender
  - Student class unit load
- Model selection by adding/dropping predictors
- Verify causal relations between the predictors