DATA 8

Spring 2022

Lecture 39

Case Study on Education

Announcements

Complete the NSF Survey!

www.yellkey.com/level

(Until 10am Thursday)

Estimating Exam Scores

Guess the Midterm Score

In a large course with 2 midterm exams:

- Most students took both midterms
- John was sick for the second midterm
- He emailed the instructor who excused him
- Now it's time to assign John a grade in the course…
- The course is graded on an absolute scale that allocates 90 points to midterms:
  - 40 for midterm 1
  - 50 for midterm 2

Option 0: Give an Incomplete Grade

Next semester, John has to take exam 2.

What is good and what is bad about this approach?

Option 1: Scale Up Midterm 1 Score

E.g., if John scored 21 out of 40 on midterm 1, assign him a score of 21/40*50 = 26.25 out of 50 on midterm 2.

Equivalently, assign him a total score of 21/40*90 = 47.25.

What is good and what is bad about this approach?

(Demo)

Option 2: Use the Midterm 1 Z-Score

E.g., if John scored 1 standard deviation below the mean on midterm 1, assign him a midterm 2 score that is 1 standard deviation below the mean.

What is good and what is bad about this approach?

(Demo)

Option 3: Use Midterm 1 Percentile

E.g., if John scored in the 30th percentile on the final, assign him a midterm score that is in the 30th percentile.

What is good and what is bad about this approach?

(Demo)

Option 4: Use Linear Regression

E.g.,

- if John scored 1 standard deviation below the mean on the final, and
- the correlation coefficient r between midterm and final scores was 0.8 for students who took both, then
- assign him a midterm score that is 0.8 standard deviations below the mean.

What is good and what is bad about this approach?

(Demo)

Tutoring

Small-Group Tutoring in CS/DS

Fall 2017 small-group mentoring/tutoring (CS Mentors & course tutors)

Course	CS 61A	Data 8	CS 61B	CS 70	EE 16A
Topic	Program structures	Foundations of data science	Data structures	Discrete math & probability	Linear algebra & circuits
Mentors	84	31	51	25	9
Sections	140	60	52	27	9
Students	587	261	160	156	45

Mentoring Schedule in CS 61A

September 14, 2017 — CS 61A Midterm 1

September 15, 2017 — Sign-ups for adjunct sections open

September 17, 2017 — CS 61A Midterm 1 scores returned

September 18, 2017 — Weekly adjunct sections start

October 19, 2017 — CS 61A Midterm 2

(Demo)