



Lecture 34

Case Study: Education

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Announcements

Tutoring in Computer Science

Small-Group Tutoring at Scale

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)

Hypothesis Test

- Null Hypothesis: The sampled improvements for mentored students and non-mentored students are drawn from the same population distribution
- Alternative Hypothesis: The sampled improvements for mentored students come from a population distribution which has a larger average than the population distribution from which the sampled improvements for non-mentored students came from
- Test Statistic: Average Improvement for Mentored Students - Average Improvement for Non-Mentored Students
 - Improvement: Score - what was predicted if the student was not mentored
 - Large values point towards the alternative

(Demo)

Estimation

- Interested in finding the true population average improvement for mentored students
- Bootstrap our sample many times
 - Each time, compute the average improvement
 - Keep track of these averages
- Take the inner-95% of our data as a 95% confidence interval

(Demo)
