CS 3950
Introduction to
Computer Science Research

https://northeastern-datalab.github.io/cs3950/

MEETING 1: LOGISTICS AND INTRO

Hello!

Professor this term?

- Professor Renée Miller
- miller@northeastern.edu
- WVH 446
- Office Hours: to start Thursday 2:45pm-4pm and by appointment

Why take this course?

Learn what is Computer Science research

Exposure to research areas in computer science

Be able to read, understand, and think critically about CS research

Learn about how to participate in CS research, what it looks like

Goals

Fundamental understanding of computer science research

- What are the research areas, key grand challenges/open questions?
- How do I think, read, and write about research?
- How do I participate in research?

Focus on *research* in math, engineering, and science

- Not about programming, proofs, plug and chug
- Lots of reading/discussion

Reading-centric, with focus on active participation in discussions

- How do you read a research paper in CS?
- What are the key open questions in each field, and how do we go about answering them?
- How to present research to others so they understand

Teaching Style

I am a researcher

- Things make sense to me that may not make sense to you
- I may talk fast when I get excited about a topic

Solution: ask/answer questions!

- Seriously, ask questions (interrupting me is OK!)
- Standing up here in silence is very awkward
- I do not get paid by the slide

Help me learn your names

- Say your name before each question/answer

Textbook

None!

Readings

Links are on course website

- Mix of research, meta-research, and research-adjacent papers
- List will build over the next few weeks

You are expected to complete the readings **before** class

- Except first week!

In-class discussion depends on everyone completing

- We will discuss one paper in depth many meetings

Workload

Participation and Attendance	40%
Homework	30%
Paper Presentation	30%

Readings and Participation

This course is very focused on readings and participation

- Goal is active learning, which requires your active preparation and participation
- Read every paper assigned
- **You are expected to attend class**
  - 3 free absences (we all get sick and have emergencies)
  - Discuss with me if you have an extended illness/abscence

Paper Presentation Logistics

You will present in groups of two

- Find your own partners, use Piazza if you need help
- If we settle on an uneven number of students, there will be one group of three

Identify research paper before spring break

- Must be a paper (co-)authored by a current Northeastern faculty member
- Should be in an area that you are interested in
- Meet with me during office hours to discuss and get approval

Paper Presentation Logistics (2)

Meet with faculty member, postdoc, or PhD student

- Discuss questions you had about the paper
- Learn about ongoing/future work
- Ask about opportunities to participate in research on the topic (or in the area)

Presentation in class

- What is the key problem addressed in the paper? Why is it important?
- How does the paper address the problem? What are the methods, tools, outcomes?
- What are the limitations of the paper, areas for future work?
- What opportunities are there for participation in research in this area?
- Lead discussion on the paper

Late Policy

Each student is given 4 slip days that they can use at any time to extend a deadline

- You don't need to ask me, just turn-in stuff late

Assignments are due at beginning of class, **no exceptions**

- Unless using slip day

Cheating

Do not do it

- Seriously, don’t make me say it again

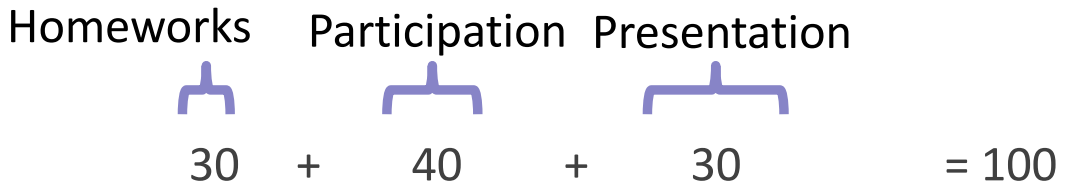
Cheating is an automatic zero

Answers to homework questions original

- If you work in a group, your response must still be in your own words
- If you have questions about an online resource, ask us

Final Grades

At the end of the semester, all of your grades will sum to 100 points



Final grades are based on a simple scale:

- A >92, A- 90-92, B+ 87-89, B 83-86, B- 80-82, …

Questions?