

Research Methods in computer science

Spring 2026

Lecture 9

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Agenda

HW3

CS Experiments

HW5

HW3 Activity

Look at a few “literature review” papers.

Getting an understanding of how to use
AI tools to create literature review.

Experiments

What experiments are useful?

Critical for the main arguments of the paper

What experiments are not useful?

Pointless experiments that generate pointless numbers, graphs, and tables

Types of Experiments

From the “context” perspective

Controlled

Uncontrolled

Datasets/benchmarks

Importance of Experiments/Metrics

Good idea + poor experiment / metrics

Outcome?

Mediocre idea + excellent experiments/metrics

Outcome?

An example from my previous research

Metric Thoughts

Manipulation: pick one vs another metric to project a different image?

Metric determines what you optimize. What is worth optimizing?

Group Activity

Experiment Design

Metric Selection

Metric tradeoff discussions

Attack the experiment/metric

Group 1

A new algorithm that translates English text to Spanish.

Group 2

A new wireless networking technology.

Group 3

Impact of doing court proceedings in metaverse.

<https://www.reuters.com/world/americas/colombia-court-moves-metaverse-host-hearing-2023-02-24/>

HW5 – Metrics

List of metrics from the related papers.

Define the metrics.

Observations about common and uncommon metrics.

Pick at least one metric:

- Show how it supports one of the claims
- Show how it is biased or manipulated