

Research Methods in computer science

Fall 2014

Lecture 1

Omprakash Gnawali

August 25, 2014

Objective

Learn how research is done
in computer science

Improve research
productivity

Topics Covered

Papers: Read, write, evaluate

Presentations: create, perform, evaluate

Other topics

- Research thinking

- Graphs and visualization

- Tools

- Statistics and data analysis

- Experiment design

Who Should Take this Course?

Ph.D. Students in early career

MS Thesis students

Administrative Information

3 credits

Can use this course in place of 6110

File a petition requesting substitution

Meet Mondays/Wednesdays at AH10

Office hours Mondays 230-330pm

<http://www2.cs.uh.edu/~gnawali/courses/cosc6321-f14/>

Grading

Pass/Fail

To Pass

- Submit all homeworks

- Each homework graded 0 or 1

- Average grade must be > 0.75

- Participate in activities (conference, etc.)

Topics for today

Deliberate Practice

Research Ethics

Research Formulation

Deliberate Practice

Observe

- Find good papers and presentations

- Study the content and style

Identify Skills

- Compare with your habits/skills/outputs

- Details (not high level like “writing”)

Practice

- Drills to challenge and improve

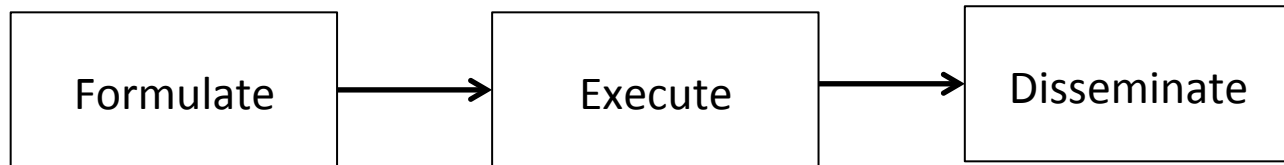
- Iterate with feedback

Research Ethics

Narrow focus in this course

Understand and minimize bias

Identify and disclose conflicts



Assignment 1

Make a list of skills you need to practice.

Write one-paragraph description of your research interest.

Write one-paragraph description of the research project you want to pursue during the semester.