

Research Methods in computer science

Spring 2017

Lecture 2

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Agenda

PhD Milestones and Template
Research Topic Formulation

PhD Milestones

What are they?

PhD Template

Work on a project or two, often assisting a senior student; write a little

Work on a major project; write one or two papers on that topic

Write a dissertation

Discussion on variations in the “PhD template”

Think about your post-PhD objectives

Recap from last week...

- What do you need to know/learn?
- What do you already know/learn?
- What do you want to work on?

- Practice, observe, adapt, seek feedback, iterate

How to Find a Topic?

Read, read, read, discuss, go to talks

Listen to your advisor: sometimes you may not have a choice, but you can still bring small ideas

Lets say you are convinced you found a topic. You are excited

How to know if we should pursue the topic?

Why do (PhD) research?

Research Formulation

What are you trying to do? Articulate your objectives using absolutely no jargon.

How is it done today, and what are the limits of current practice?

What's new in your approach and why do you think it will be successful?

Who cares?

Research Formulation

If you're successful, what difference will it make?

What are the risks and the payoffs?

How much will it cost?

How long will it take?

What are the midterm and final "exams" to check for success?