A Summer Research Experience in Robotics

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The Basics

NSF REU Site

Started in 2014

- just got recommended for 3-year renewal

10 funded students

- with ~10 others, from other funding
- 65 students over 3 years (34 on site)

The Basics

~500 applications over 3 years

- 6% acceptance rate

Stipend, room, food, and travel

- roughly $8,000 per student

Resulted in contributions to 12 (!) peer-reviewed papers in first 2 years

The Basics

Four students have returned to OSU as graduate students

- and one undergrad transferred

Oregon State Robotics

Culture, Mentoring, and Space

Add REU students to an existing project

- built-in mentoring and purpose

Facilitate to dense network of near-peer mentors

Projects

Build REU projects out from existing projects
- nothing on the critical path

Double up REU students on projects
- and have extra work in reserve

Build in incremental goals
- something to show, every week

Structure and Process

Project pitches

- initial, mid-REU, final
- get feedback and practice pitching

Have the students come up with timeline

- and help them adjust it

Structure and Process

Focus on teaching that research is a process
- and often a slow one

Failure is always an option
- and is expected

Give lots of opportunities for peer critique
- teach how to give and take feedback

Grad Student Skills

Teach them the basics of

- literature review
- critiquing
- documentation

Condense what you learned into a presentation

- for me, its time management
- emphasize that these things are useful

Grad School Expectations

Most students don't know what grad school is

- expose the process
- make sure they understand what it's about

Help them apply to grad school

- fill our your application (or OSU's one)
- be honest about what matters

Timeline

Wk	Topic	Activity	Assignment
1	Defining a research project	Introductions, logistics	Project presentation
2	(No lecture)	Project presentations	Project timeline
3	Grad student skills and tools	SG Timeline evaluation	Project "elevator pitch"
4	Time management	Project "elevator pitches"	Banner posters
5	Critiquing technical work	SG Banner poster critique	Mid-project presentations
6	Documenting your work	Mid-project presentations	Documentation draft
7	Grad school, NSF GRFP application process	SG Documentation review	Application rough draft
8	Designing a research poster	SG Grad student application	Poster draft
9	Picking grad school, adviser Building professional network	SG Poster review	Final presentation
10	(No lecture)	Final presentations	

What Did We Learn?

It's a surprising amount of work

Coordinate your dates with other programs

Small parts of larger projects work well

- define clear boundaries

Research Experiences for Undergraduates

- they're not grad students (yet)

Questions?

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