

# Undergraduate Research Why's and How's

CS1000 - Explorations in Computer Science

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# Outline

## Overview

Two undergraduate research programs

Michigan Tech SURF

NSF REU site

# Benefits of undergraduate research

- ▶ World and nation
  - ▶ global competitiveness
  - ▶ innovation and discovery
- ▶ University, department, and faculty
  - ▶ offer high quality programs
  - ▶ attract and retain good students
- ▶ Student
  - ▶ preparation for STEM (Science, Technology, Engineering, and Mathematics) careers
  - ▶ increased understanding, confidence, and awareness of the field, and the research process

# How does undergraduate research run?

- ▶ During the academic year
  - ▶ work, class, or both
  - ▶ may be tied to external funding
- ▶ In summer
  - ▶ paid, full-time work  
funded externally or by the university
  - ▶ workstyle and expectations vary
  - ▶ 1 undergraduate student or team of up to 10
  - ▶ 7-14 weeks  
the summer semester is typically 14 weeks including finals

# Michigan Tech's SURF program

- ▶ SURF: Summer Undergraduate Research Fellowship
- ▶ Fellowship recipients conduct a research project under the guidance of a Michigan Tech faculty mentor
- ▶ Fellowship award of up to \$4,000.
- ▶ 7-14 weeks during the summer semester
- ▶ Open to all Tech undergraduates who have at least one semester remaining after the summer
- ▶ Applications due: January 29, 2016 at 4:00pm
- ▶ Funded and run by Michigan Tech

# NSF REU site program

- ▶ NSF REU: National Science Foundation Research Experience for Undergraduates
- ▶ Fellowship recipients conduct a research project under the guidance of a faculty member at a host institution
- ▶ Fellowship covers travel and living expenses, and \$500 per week stipend
- ▶ 8-10 weeks during the summer semester
- ▶ Group of 7-10 students
- ▶ Must be US citizen, national, or permanent resident
- ▶ Funded by NSF and run by the host institution

## Sources for the slides (website last access: November 1, 2015)

- ▶ REU-IN-A-BOX: Expanding the Pool of Computing Researchers. Patricia Morreale, Kean University; Margaret Burnett, Oregon State University; Ann Gates, University of Texas El Paso; Jose Cossa, University of Texas; and Nancy Amato, Texas A&M University. [www.ncwit.edu/reubox](http://www.ncwit.edu/reubox)
- ▶ Summer Undergraduate Research Fellowship (SURF). <http://www.mtu.edu/research/administration/vpr-office/internal-awards/surf/>
- ▶ NSF REU programs. <http://www.nsf.gov/crssprgm/reu/faculty.jsp>  
<http://www.nsf.gov/crssprgm/reu/>