

# Computer Science Department Highlights

2019–2022

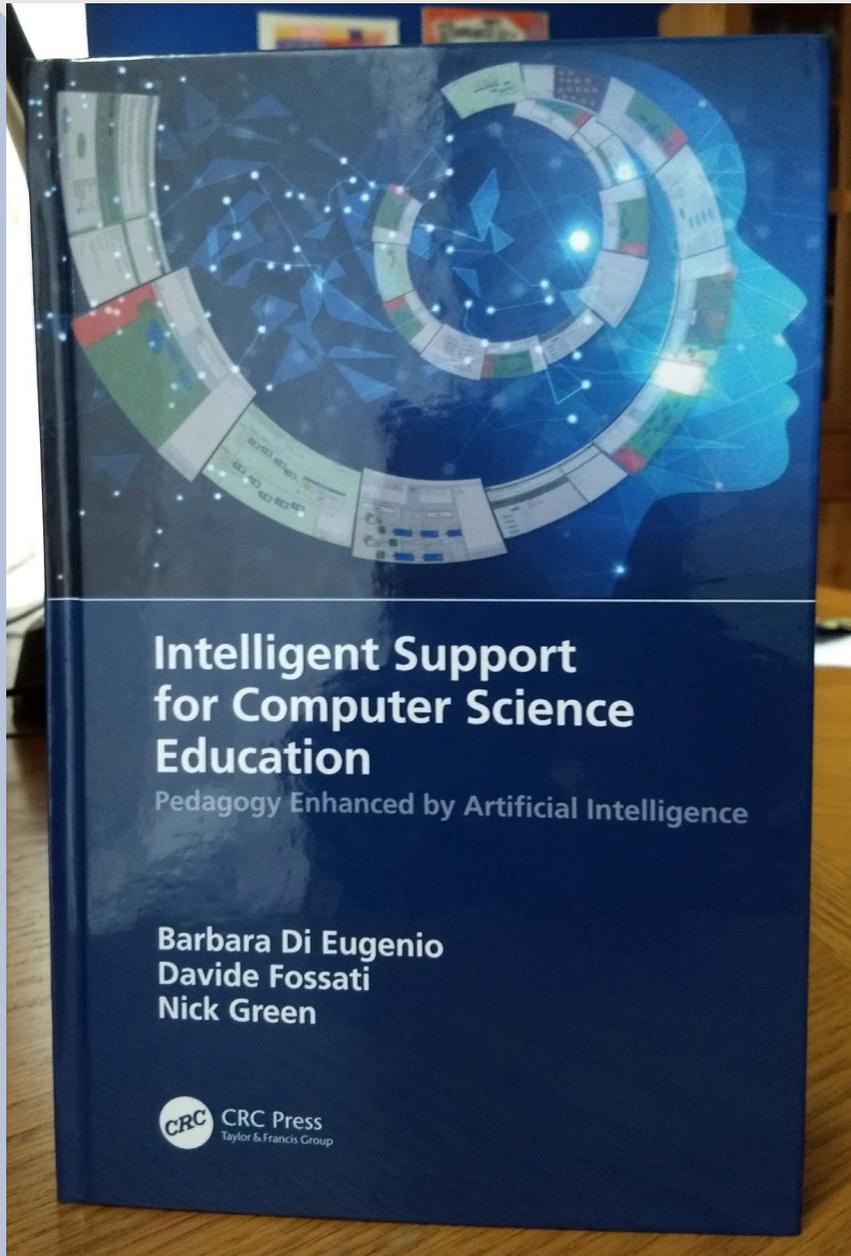


THE  
UNIVERSITY OF  
ILLINOIS  
AT  
CHICAGO  
UIC



UIC's [PoliThinkers](#) (2 ECE, 3 CS, 1 BioE, PoliMi & To) claim victory and \$10K at BuiltWorlds Hackathon Chicago (Dec 2018)

System to warn workers of dangerous situations and remind them about safety procedures while utilizing certain kinds of machinery



D. Fossati:  
MS UIC 2003,  
Laurea Poli Mi 2004,  
PhD UIC 2009,  
Teaches at Emory University  
(Atlanta Georgia)

# CS: Tremendous Undergraduate Enrollment — And still growing

- Fall 2021: **1708 CS, 32 DS**
- **5.3 x growth since 2011; 2.1 x since 2016**

## **Three Undergraduate Degrees, plus one more coming Fall 2022**

- BS Computer Science (CS)
- BS Data Science (DS) (new Fall 21!)
- Partner in LAS-housed CS + Linguistics (new Fall 21!)
- BS in CS + Design, coming Fall 2022

# Growth continues: Grad

Fall 2021					Fall 2020					$\Delta$ MS	$\Delta$ PhD
MS	New MS	PhD	New PhD	Total	MS	New MS	PhD	New PhD	Total		
243	148	157	18	405	167	29	155	20	329	76	2

- PhD program roughly stable, COVID-19 special factors last year and this
- MS program **+46%**; COVID-19 special factors last year and this

New building June 2023!



# UIC CS *Very* Highly Ranked Nationally

## **CSRanking.org's ranking of UIC CS among all US PhD granting departments:**

- Overall: 38
- Across all AI & Machine learning related subfields: 20
  - Ahead of U Chicago, Northwestern, most of Big Ten
- The Web & Information Retrieval subfield: 7
- CSRanking.org is an open-source ranking developed by computer scientists for computer science, and is ranking given most weight by both PhD and faculty applicants nationwide



Bing Liu's has won TWO KDD Test of Time awards:  
2014, for 1998 paper on rule mining  
2015, for 2004 paper on fake online reviews



BiAffect app: Can typos give insight into your mental health?  
Prof Pete Nelson (COE Dean, CS Professor)



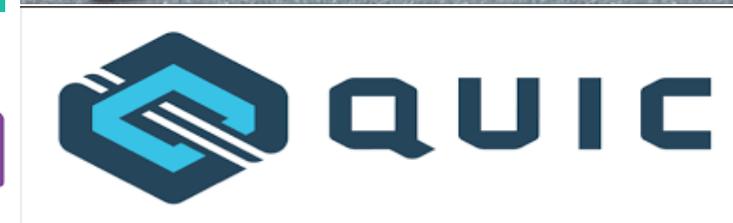
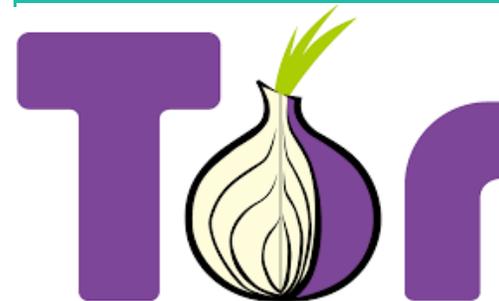
Electronic Visualization Lab NASA-funded ENDURANCE project analyzes information captured by an autonomous underwater vehicle (AUV) in the extreme environment of West Lake Bonney, a perennially ice-covered Antarctic dry valley lake

# Curve25519



Daniel J. BERNSTEIN

Encryption system that allows users to securely create a shared key



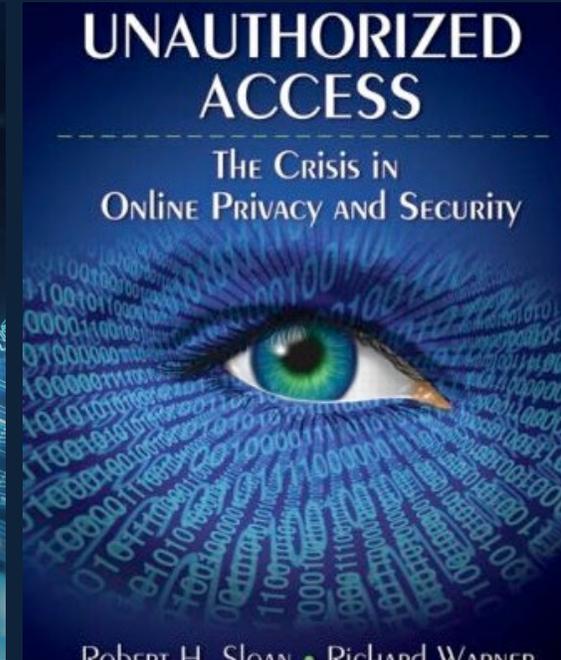
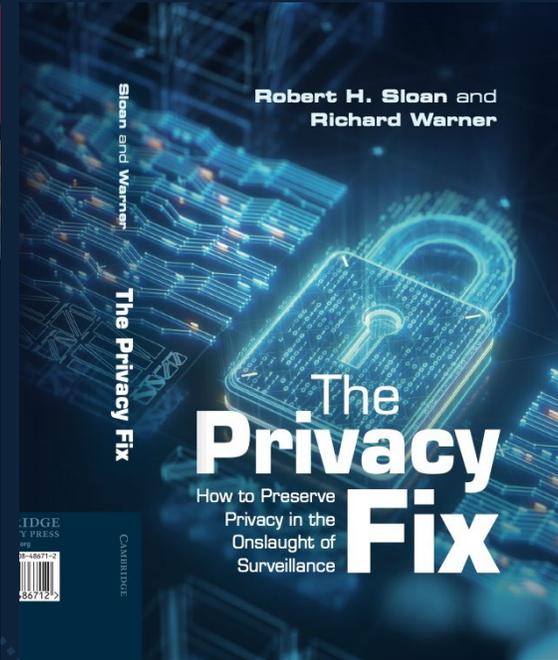
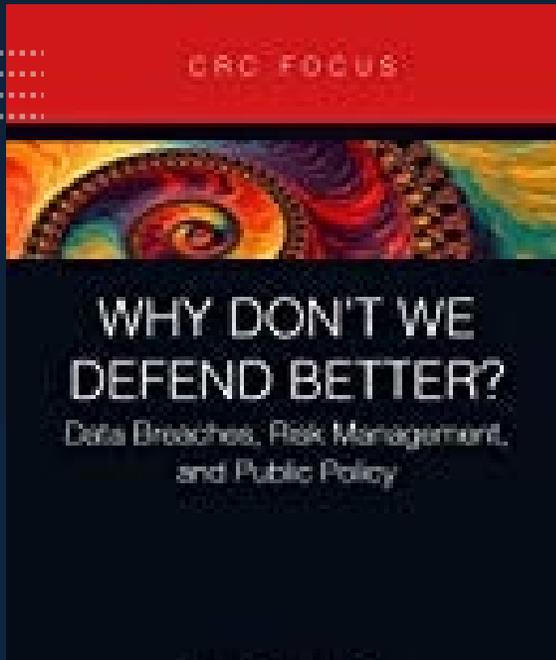
Making the internet faster with...

**Q**uick  
**U**DP  
**I**nternet  
**C**onnections

# Jason Polakis: Breaking and Fixing the Web

Pieces to the puzzle: web browsers, web applications, mobile applications and operating systems

- Analyzing systems, mechanisms and protocols:
  - Identifying design flaws or deployment issues
  - Demonstrating novel attacks against popular services/systems (i.e., incentivizing major companies to better protect users)
- Developing privacy-preserving mechanisms & better security mechanisms
- Creating automated frameworks for large-scale black-box security auditing



# Bob Sloan: Security and Privacy Policy

## Fundamental questions:

- What surveillance schemes and *limitations* are technically feasible?
- How do we make good tradeoffs between privacy versus free good stuff (Gmail? FB?) and crime and terrorism fighting?
- How do economics, and especially laws affect the above?