CS @ ILLINOIS
Graduate Programs
Today’s Focus

- Why attend graduate school?
- How to choose the right program?
- What does CS @ Illinois have to offer?
Why go to Graduate School?
Why Grad School?

- Have passion for research
- Allows freedom to focus on any problem you want to solve
- Opens up employment opportunities within the academia and research fields
- Collaboration with a wide range of researchers across the world
- It is fun!
Advantages

A graduate degree offers students

- Collaboration with a wide range of researchers
- An opportunity to work on solving problems to difficult questions
- An opportunities to grow and strengthen knowledge in the area of computer science and research
- A way to open more doors to job opportunities
What you get from a PhD

- Ability to identify interesting problems
- Come up with a plan of execution
- Not fear failure but learn from it
- Execute your plan
- Sell it to others
  - Written in the form of publications
  - Orally at conference presentations
Identify Career Goals

- Identify your ultimate career goal
- Investigate the educational background required to reach this goal
- Investigate the types of industries where such a position would be obtain
- Evaluate which graduate program and degree makes the most sense to help you reach your goal
“Being a graduate student is like becoming all of the Seven Dwarfs. In the beginning, you are Dopey and Bashful. In the middle, you are usually Sneezy, Sleepy, and Grumpy. But at the end, you are Doc and Happy.”

by Ronald Azuma
(Intel Labs)
Choose the Right Graduate Program

*It is important to select a graduate program and college that*

- Fits your learning styles
- Fits your educational and career goals
- Has research opportunity that interests you
- Faculty that match your research interest
“Let me tell you the secret that has led me to my goal. My strength lies solely in my tenacity”

by Louis Pasteur
Applying to Graduate School

- **Investigate** application **deadlines** and required application material well in advance and apply early
- **Involve** yourself in **research** as an undergrad—sign up for a research course to gain research experience
- Take time to **interact** with **faculty**
- **Select** your **recommenders carefully**—select ones that can reference your research and academic ability
Why CS @ Illinois for Grad School?
We Believe...

- That computing is (real) life.
- That addressing the computing challenges of tomorrow requires a collaborative, multi-disciplinary approach.
- That you can’t tackle a problem without taking on the entire problem chain.
- That a flexible approach, grounded by mastery of the fundamentals, leads to transformational solutions.
- That students are young colleagues and faculty are older students.
Our Philosophy is to build Grads into a

- A **SCHOLAR** by absorbing large bodies of research literature and critically analyzing the state-of-the-art along with its shortcomings

- An effective **COMMUNICATOR** by learning how to express ideas clearly in writings, individual meetings, and public seminars

- An **INNOVATOR** by creating new theories, technologies, or paradigms that inspire people in research communities and industry
A Top 5 National Ranking Program
Offering a Large Environment

- 60+ Faculty
- 1550+ Undergrads
- 600 Graduates
- 1260 (approximately) CS PhD Awarded
With a Personal Touch

Average is ~4.2 PhD students per faculty member
And Many Research Area Disciplines

Computer Science

- Algorithms & Theory
- Architecture, Parallel Computing & Systems
- Artificial Intelligence
- Bioinformatics & Computational Biology
- Databases & Information Systems
- Graphics, Visualization & HCI
- Scientific Computing
- Systems & Networking
- Programming Languages, Formal Methods & Software Engineering
With Engaging Corporate Partners

- **The Corporate Connection**
  - Strategic recruiting and research services for 31 companies seeking CS and ECE students
  - 68 in startup program

- **Ad hoc Opportunities**
  - For Tech talks, Corporate days, and HACKS/competitions

- **Work with Student Groups**
  - Sponsor events with ACM, WCS, LCSC, HACKIllinois, Founders, CocoaNuts, CSGSO, and PURE

- **Research Collaborations**
  - Sponsored research and technology transfer
Strong CS Student Community: Get Involved!

- **Student groups** that complement and enhance what happens in the classroom

- **Rich calendar** of events that connect students, faculty, sponsors, alumni
Best Faculty In Their Areas

David Forsyth

Jiawei Han

Steve LaValle

Wen-mei Hwu

Amazon.com Sales Rank: #1,690 in Books
Recent Faculty & Student Awards

- **Distinguished Faculty Awards**
  - ACM Fellow (V. Adve); AAAS Fellow (Roth); IEEE Fellow (Smaragdis)
  - SIAM/ACM Prize in Computational Science and Engineering (Gropp)
  - IEEE CS Harry H. Goode Memorial Award (Padua)
  - IEEE CS Technical Achievement Award (Torrellas)
  - PAMI Young Researcher Award (Hoiem)
  - ACM SIGIR Test of Time Award (Zhai)
  - UIUC research awards to Sinha, Xie, Godfrey

- **Distinguished Student Awards**
  - ACM IEEE-CS George Michael Memorial HPC Fellowship
  - NSF Graduate Research Fellowships
  - IBM PhD Fellowship
  - NDSEG Fellowship
  - VMware Graduate Fellowship
  - CRA Outstanding Undergraduate Researcher Award
ARCHITECTURE, COMPILERS, AND PARALLEL COMPUTING

Adve  Adve  Garzaran  Kale  Padua

Rutenbar  Snir  Torrellas  Zilles

ARTIFICIAL INTELLIGENCE

DeJong  Fleck  Forsyth  Hockenmaier  Hoem

LaValle  Pitt  Roth  Smaragdis

DATABASE, INFORMATION SYSTEMS, AND BIOINFORMATICS

Chang  Han  Parameswaran  Peng

Sinha  Warnow  Zhai

GRAPHICS AND HUMAN COMPUTER INTERACTION

Bailey  Fu  Hart  Karahalios

Kirlik  Kumar  Sundaram
How to Become a part of CS @ Illinois
Choose a Program...

Computer Science

Ph.D.

MS

Bioinformatics

MS

Professional Master’s (MCS)
(Online or On-Campus)

MS (w/ thesis)

For more information, visit cs.illinois.edu/prospective-students/graduate-students.
MS Program

- Complete 28 coursework hours
  - 9 to 12 credits of Breadth coursework
  - 12 credits of CS 500-level coursework
- Complete 4 credits of thesis research (CS 599)
Professional Master’s (MCS) Program

- Complete 32 coursework hours
  - 12 to 16 credits of Breadth coursework
  - 12 credits of CS 500-level coursework
- No thesis requirement
- Tuition-reimbursement seeking program
Ph.D. Program: Flexible Program of Study Curriculum

- Students are assigned a Program of Study Committee of 3 faculty advisors to design and approve curriculum
- Stimulates faculty interaction and student independence
- Advantage: breadth, depth, diversity of Illinois course offerings
  - Math offers 60+ grad courses
  - Interdisciplinary areas with ECE, Bio., Chem., Psy., Linguistics

For more information, visit cs.illinois.edu/current-students/graduate-students/phd-students
Ph.D. Program Requirements

- Total number of hours required: **96**
  
  *(64 with an approved M.S.)*

- **Coursework hours required: 48**
  
  *(16 with an approved M.S.)*

  - **Advanced Coursework hours required: 24**
    
    *(16 with an approved M.S.)*

- **Thesis Research (CS599) hours required: 32**

- Qualifying Exam

- Prelim Exam

- Final Exam
Tuition and Assistantships

- The majority of M.S. and Ph.D. graduate students hold either a
  - Fellowship
  - Teaching Assistantship, or
  - Research Assistantship

For more information on the University of Illinois graduate tuition and fees, visit

http://registrar.illinois.edu/g-tuition-rates-1516
Apply to CS @ Illinois -

- Complete the online application
- Pay the application fee
- Submit a “Statement of Purpose”
- Submit three “Letters of Recommendation”
- Submit a “CV/Resume”
- Submit “Official” transcripts
- Submit TOEFL or IELTS scores (international students only)
- Complete CS Interest form

*Complete outline of the application process and GPA requirements is located at cs.illinois.edu/prospective-students/graduate-students.*
Applications Deadlines

Ph.D. and M.S. Program – Fall entry only
December 15th

Professional Master’s (M.C.S.) & M.S. BioInformatics
October 15th - for spring
January 15th - for fall

For more information:
cs.illinois.edu/prospective-students/graduate-students
Join our Team at CS @ Illinois
For More Information

Call (217) 333-4428

Email academic@cs.illinois.edu

Visit cs.illinois.edu/prospective-students/graduate-students

*Thanks for your interest in CS @ ILLINOIS!*