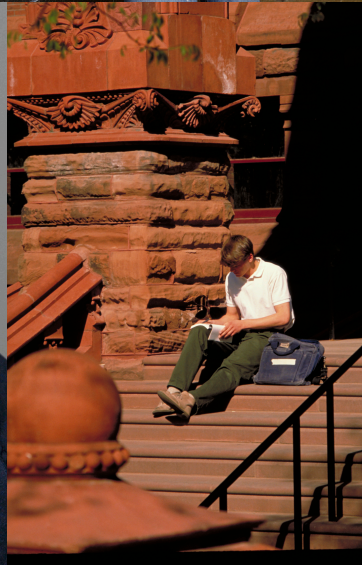


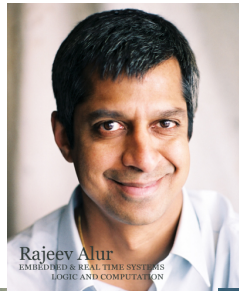


# Welcome to Penn CIS!

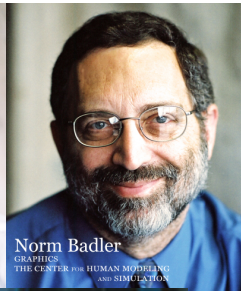




# Penn CIS Faculty



**Rajeev Alur**  
EMBEDDED & REAL-TIME SYSTEMS  
LOGIC AND COMPUTATION



**Norm Badler**  
GRAPHICS  
THE CENTER FOR HUMAN MODELING  
AND SIMULATION



**Matthew Blaze**  
SECURITY AND INFORMATION ASSURANCE  
NETWORKS & DISTRIBUTED SYSTEMS



**Kostas Daniilidis**  
ARTIFICIAL INTELLIGENCE  
COMPUTER VISION



**Susan Davidson**  
BIOINFORMATICS  
DATABASES & DATA MANAGEMENT



**Jean Gallier**  
COMPUTATIONAL GEOMETRY  
LOGIC AND COMPUTATION



**Sudipto Guha**  
LOGIC AND COMPUTATION



**Sampath Kannan**



**hael Kearns**  
THEORETICAL COMPUTER SCIENCE, MACHINE LEARNING  
ARTIFICIAL INTELLIGENCE, ALGORITHMIC GAME THEORY



**Sanjeev Khanna**  
COMPUTATIONAL COMPLEXITY



**Insup Lee**  
SOFTWARE ENGINEERING  
EMBEDDED & REAL-TIME SYSTEMS



**Ronit Rubinfeld**  
STATISTICS & DATA MANAGEMENT  
NETWORKS & DISTRIBUTED SYSTEMS



**Mitch Marcus**  
ARTIFICIAL INTELLIGENCE  
COMPUTATIONAL LINGUISTICS



**Max Mintz**  
ROBOTICS, GRASPING



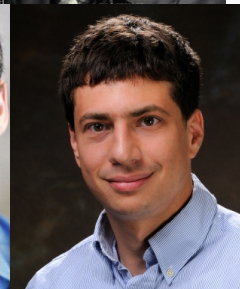
**Nenkova**  
ARTIFICIAL INTELLIGENCE  
COMPUTATIONAL LINGUISTICS



**Benjamin Pierce**  
PROGRAMMING LANGUAGES  
DATABASES & DATA MANAGEMENT



**Nathan Smith**  
SECURITY AND INFORMATION ASSURANCE  
NETWORKS & DISTRIBUTED SYSTEMS



**Jianbo Shi**  
COMPUTER VISION, MACHINE LEARNING



**J. Taylor**

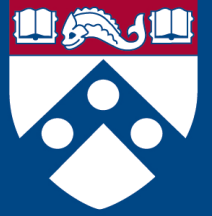


**Lyle Ungar**





# Undergraduate Program Advising



- Dr. Stephanie Weirich (Levine 510)  
*Professor and Undergraduate Chair, CIS*
- Ms. Jackie Caliman (Levine 308)  
*Associate Director for the Undergraduate Program in CIS*
- Ms. Amy Calhoun (Moore 170)  
*Associate Director of Integrated Studies (DMD & CMPE)*
- SEAS Office of Academic Programs  
Towne 111



# Overview of Degree Programs

---

- Bachelors of Science in Engineering (BSE)
  - CSCI: Computer Science
  - DMD: Digital Media & Design
- Bachelors of Applied Science (BAS)
  - ASCS: Computer Science (intended for dual degrees)
  - ASCB: Computational Biology
  - ASCC: Computer & Cognitive Science
- Joint with Electrical & Systems Engineering
  - CMPE: Computer Engineering
  - NETS: Networked & Social Systems Engineering



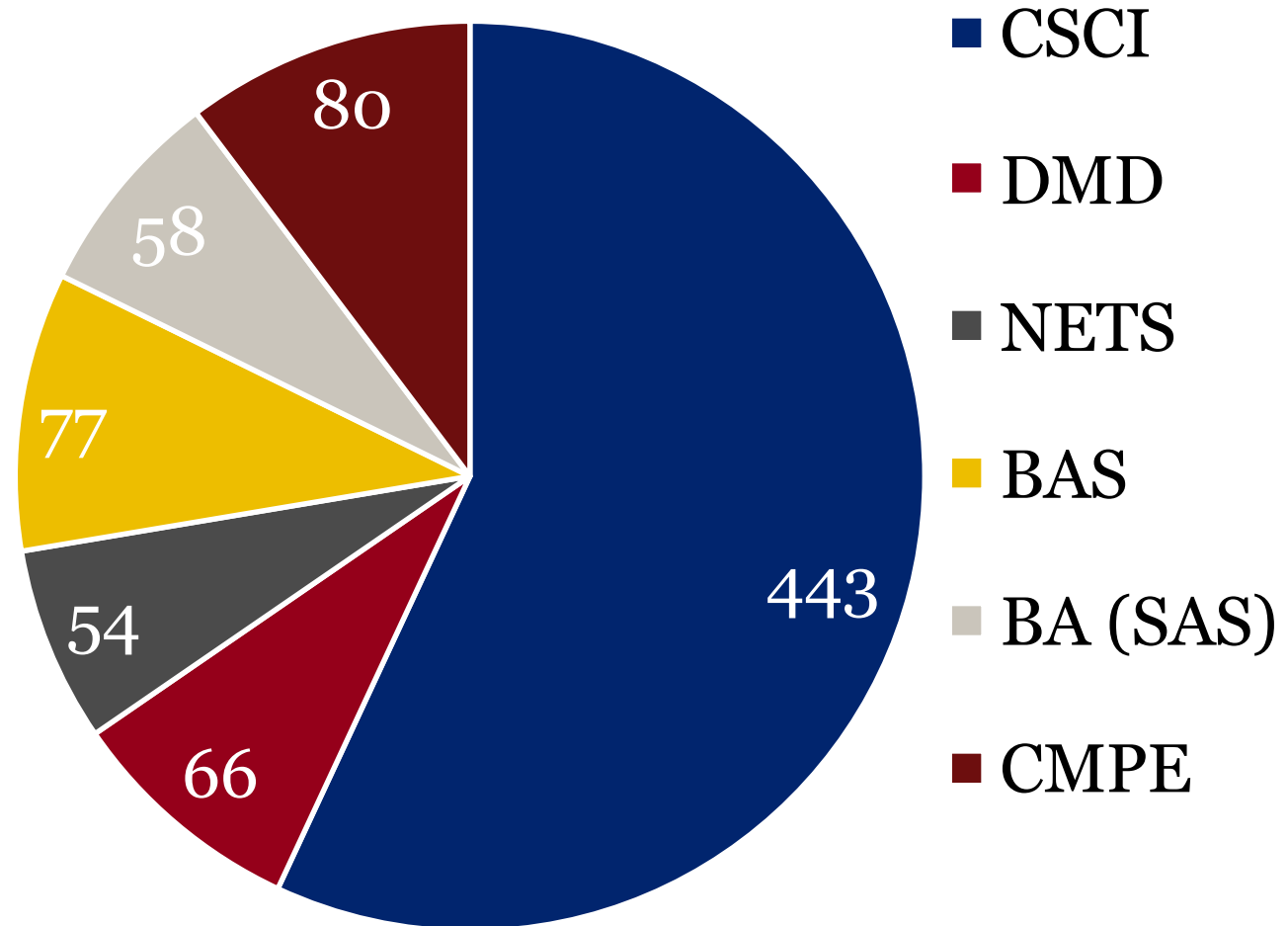
# Joint Programs outside SEAS

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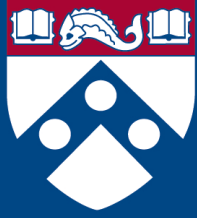
- With SAS:
  - Computer and Cognitive Science (dual degree)
  - BA in Computer Science (must be a double major)
  - Logic and Computation (SAS major)
  
- With the Wharton School:
  - M&T: Management and Technology
  - “Honors” dual-degree with any SEAS degree (often CSCI)



# Undergraduates by Major



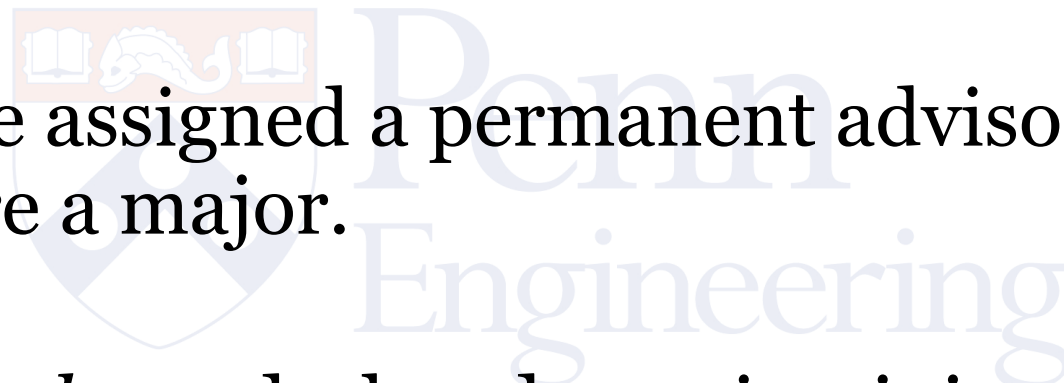
778 = total undergraduate enrollment (Fall 16)  
about 30% women



# Undecided?



- Curriculum Deferred (C.D.) Students
  - Feel free to ask advice from any of us.
- You will be assigned a permanent advisor when you declare a major.
- Even if you *have* declared a major, it is not hard to switch.





# CSCI Core Curriculum

---

- CIS 110: Introduction to Computer Programming
  - CIS 120: Programming Languages & Techniques I
  - CIS 121: Programming Languages & Techniques II
- } Programming

- CIS 160: Mathematical Foundations for Computer Science
  - CIS 262: Automata, Computability, and Complexity
  - CIS 320: Introduction to Algorithms
- } Theory

- CIS 240: Introduction to Computer Architecture
  - CIS 371: Computer Organization and Design
  - CIS 380: Computer Operating Systems
- } Systems

- CIS 400/401: Senior Design Project

(Exact requirements vary with the degree program)





# Specialized CIS Course Offerings

---

- **DMD**

- CIS 460: Intro. to Computer Graphics Techniques
- CIS 461: Computer Graphics
- CIS 462: Computer Animation

- **NETS**

- NETS 112: Networked Life
- NETS 150: Market & Social Systems on the Internet
- NETS 212: Scalable and Cloud Computing
- NETS 312: Theory of Networks
- NETS 412: Algorithmic Game Theory

- **CMPE**

- CIS 350: Software Engineering
- CIS 441: Embedded Software

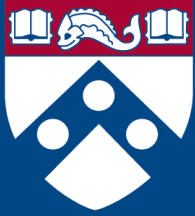
All of these can serve as CIS  
electives for all majors...



# Other CIS Course Offerings

---

- **Electives**
  - Machine Learning, AI, Natural language processing
  - Compilers, advanced programming
  - Distributed / Embedded Systems
- **Mini Courses (CIS 19x)**
  - C++ / Python / Haskell / Rust
  - iPhone / Ruby on Rails / Javascript
  - Unix Skills
- **Graduate Courses (CIS 5xx)**
  - Advanced versions of systems, algorithms, architecture, ...
  - Security, programming language foundations, ...



www.cis.upenn.edu



CIS

MONDAY, AUGUST 24, 2015

- NEWS & EVENTS
- DIRECTORIES
- CIS HOME
- PENN HOME

welcome to the department of computer and information science

- DEPARTMENT
- PEOPLE
- ACADEMICS
- RESEARCH
- OUTREACH
- QUICK LINKS

SEARCH

Information For:

- Current Students
- Undergraduate
- Degree Requirements

- CS Second Major
- Submatriculation
- Courses
- Advising
- Tutoring
- Student Groups

## great faculty

click stories 1 2 3 4

### Penn Helps Develop Algorithm Aimed at Combating Science's Reproducibility Problem

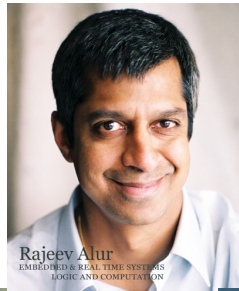
Aaron Roth, an assistant professor in the Department of Computer and Information Science, is developing new mining tools that can help tell when they have unearthed a nugget of truth, or what amounts to fool's gold: a correlation that seems to have predictive value but actually does not because



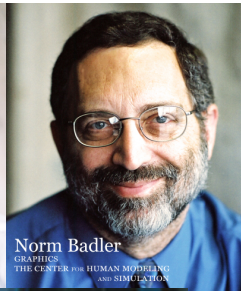
*SEAS Undergraduate Student Handbook*  
[www.seas.upenn.edu/undergraduate/handbook/](http://www.seas.upenn.edu/undergraduate/handbook/)



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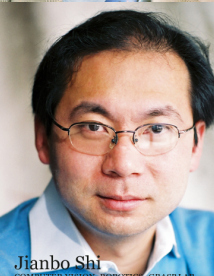
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STATISTICAL COMPUTER SCIENCE, MACHINE LEARNING  
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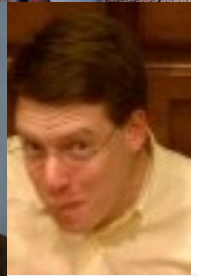
**Jianbo Shi**  
COMPUTER VISION, MACHINE LEARNING, GRAPHICS

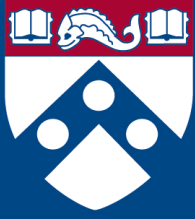


**J. Taylor**



**Lyle Ungar**

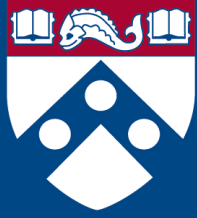




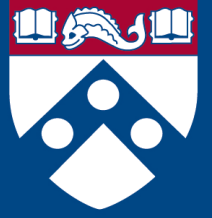
# (1) Engage with Faculty



- Penn's CIS faculty is filled with world class researchers in all areas across computer science
- One of the best parts of being a professor is interacting with bright students like you
- How?
  - participate in class
  - explore research opportunities  
e.g. Undergraduate Summer Research
  - senior design project
  - talk to us in the hall, find us in the office, or send e-mail



## (2) Learn From Your Peers



- In your classes:
  - By working in project teams
  - By forming study groups
- In student organizations:
  - Dining Philosophers
  - Women in Computer Science (WICS)
  - Penn SIGGRAPH
  - PennApps
- While teaching:
  - By being a TA
  - By becoming a tutor



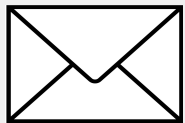
# Dining Philosophers

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- If you like Computer Science, this is the club for you!
- Three committees:
  - **Hacking & Learning** -- plan workshops, host tech talks & build mentorship programs for students across the computer science spectrum
  - **Entrepreneurship & Jobs** - host events to inform students about the careers and opportunities and work with prominent tech companies to build a strong rapport between SEAS CS students and industry
  - **Social** - organize events for the CIS@Penn community to get to know each other with each other outside of the classroom
- Don't have to be on a committee to join the club
- More information
  - Dining Philosophers FB page
  - CIS@Penn FB group
  - [dinphil@gmail.com](mailto:dinphil@gmail.com)
  - [dp.seas.upenn.edu](http://dp.seas.upenn.edu)

## How can we make Penn better for women in CS?

- FemmeHacks (all-women hackathon)
- Passion projects (we fund your inventions!)
- Meet-ups and hang-outs (free food)
- CSterhood (mentorship program)
- Get you jobs (Google, Apple, you name it)



[pennwics@gmail.com](mailto:pennwics@gmail.com)



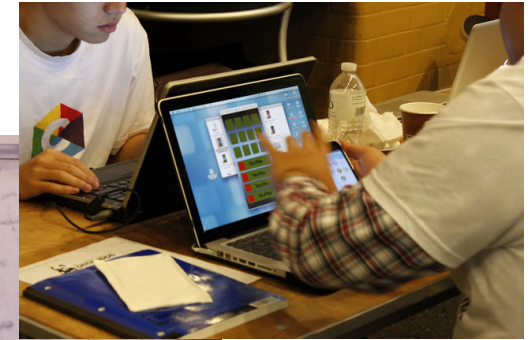
[wics.cis.upenn.edu](http://wics.cis.upenn.edu)



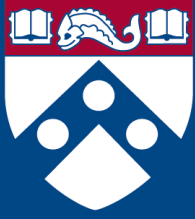


# PennApps

- Largest University-run hackathon
- Fall 2016 – September 9<sup>th</sup>-11<sup>th</sup>
- Spring 2015 had participants from 147 universities, 24 states and 11 countries
- Over \$40k in sponsored prizes
- Penn students can still register
- No experience necessary



**PENN  
APPS**



## (3) Be broad & explore



- Within the Engineering School
  - Departmental Colloquia
  - Interdisciplinary groups like the GRASP laboratory
- Around Campus
  - Classes from around the university
  - Less formal learning experiences (e.g. Preceptorials)
  - Campus Clubs and Organizations
  - Gym facilities / IM sports / Athletics
- In Philadelphia
  - Restaurants / Music / Museums / Culture / ...



## (4) Succeed!



- Work hard!
- Have fun!
- Take care of yourself.
- We're here to help.



Penn  
Engineering



# What Next? Lunch!



1. Pick up a boxed lunch in the Levine Lobby
2. Freshmen advisors have tables with their names on them
  - not all of them could be here
  - there may not be enough room for all advisees at one table
  - there are other faculty around
  - feel free to ask any of us for advice
3. DMD students should go to the Graphics Lab (Moore 103)
4. Dr. Mintz advisees upstairs in the mezzanine
5. NETS is in 512