

SCHOOL OF COMPUTER SCIENCE (SCS)

Start Making Your Impact in Computer Science.

If you're serious about computing and its potential to improve the lives of many people, you belong in Carnegie Mellon University's School of Computer Science.

Since our founding in 1965, we've consistently been named among the nation's top CS schools, and we just announced the nation's first bachelor's degree in artificial intelligence. We focus on teaching you computational thinking and fundamentals that will prepare you for internships as early as your first year. We emphasize collaboration. You'll work shoulder-to-shoulder with the most talented CS students in the country. So when you graduate, you'll be prepared to walk into any research or industry team and start making an impact from day one. And since we're part of Carnegie Mellon, you'll live and study with some of the world's top talent in the arts, engineering, business and humanities.

GRADUATED CLASS – SPRING 2018



175
GRADUATED
CLASS

Popular Freshman Courses

- > Fundamentals of Programming and Computer Science
- > Principles of Imperative Computation
- > Principles of Functional Programming
- > Great Theoretical Ideas in Computer Science

The current sophomore class is almost 50 percent female — well above the national average of 17%. Overall, 30% of SCS undergraduates are female.

SCS Admitted Student Averages

SAT-ERW*	SAT-M*	ACTE	ACTM	ACTC
740-780	790-800	35	35	35

Rank 2% GPA 3.96

*Middle 50% range

PROGRAMS

Artificial Intelligence (BS)

Computational Biology (BS)

Computer Science (BS)

Bachelor of Computer Science and Arts (BCSA)*

Additional Majors:

Human-Computer Interaction**
Robotics**

- * Interdisciplinary major offered in conjunction with the College of Fine Arts
- ** May be taken as a secondary major only

FACULTY



190
FACULTY*

*Pittsburgh undergraduate research and teaching track faculty

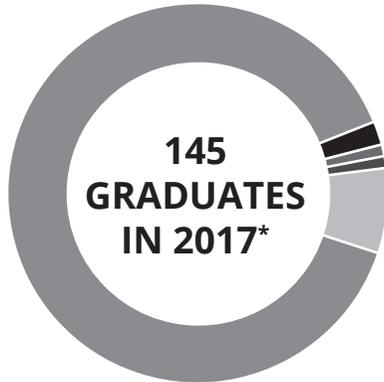
School of Computer Science faculty have won the following awards: Nobel Prize, A.M. Turing Award, Conde Nast Portfolio Brilliant Award, Pop/Sci Annual Brilliant 10, Guggenheim Fellowship Award, Sobelev Institute Gold Medal, Honda Prize and more.

Notable Faculty

- > **Mary Shaw** received the **2012 National Medal of Technology and Innovation** and the **2017 Doherty Award for Sustained Contributions to Excellence in Education**. The Doherty Award is Carnegie Mellon's top education award.
- > **Libratus**, an artificial intelligence developed by **Computer Science Professor Tuomas Sandholm and Ph.D. student Noam Brown** made history by defeating four of the world's best professional poker players in a marathon 20-day poker competition in early 2018.
- > **Takeo Kanade** earned the **2016 Kyoto Prize for Advanced Technology** and the **2017 IEEE Founder's Medal** for his pioneering contributions to computer vision and robotics, including facial recognition and automotive safety.

GRADUATE SUCCESS

Employed
89%



Not Reported
2%

Plans Pending
1%

Other
1%

Grad School
7%

**145
GRADUATES
IN 2017***

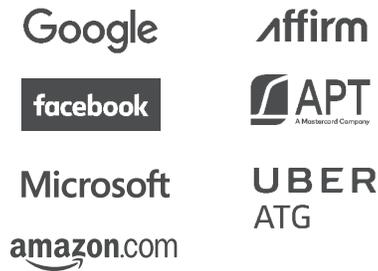
*Percentages recorded as of January 2018

Alumni Accomplishments

The late professor **Randy Pausch** (CS 1988) co-founded **Carnegie Mellon's Entertainment Technology Center**, led researchers who created Alice, a revolutionary way to teach computer programming, and received public fame for delivering *The Last Lecture*, which was later published in book form and co-written by the late **Jeff Zaslow** (DC 1980).

Kai-Fu Lee (CS 1988) is founder, **chairman and CEO of Innovation Works** — an incubator for Chinese tech startups. *Time Magazine* listed him as one of the most influential people in the world, saying "his embrace of social media lifted him from an executive to an icon of online freedom." He has more than 50 million followers on Weibo and nearly 1.7 million followers on Twitter.

Top Employers



Student Startups

- > Heather Knight (CS 2016) graduated with her Ph.D. in Robotics from Carnegie Mellon's Robotics Institute and owns **Marilyn Monrobot Labs in NYC**, which creates socially intelligent robot performances and sensor-based electronic art. She founded the Robot Film Festival and Cyborg Cabaret, and was on the 2011 Forbes List for 30 under 30 in Science.

RESEARCH



Algorithms for Social Good: Kidney Exchange

In kidney exchange, a set of patients needs to be matched with a set of donors. Given the graph of patient-donor compatibilities, finding even the maximum-cardinality set of exchanges is NP-hard. However, this research shows that empirically efficient solvers can be built and deployed in practice, significantly outperforming other leading solvers on both realistically generated and actual data from the United Network for Organ Sharing. This research won the 2016 Allen Newell Award for Excellence in Undergraduate Research.



Neural Generation of Structured and Coherent Music

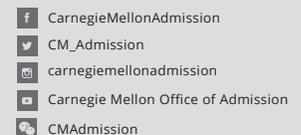
Samples generated from recurrent neural network-based language models rarely exhibit structure or coherency. This research suggests that directly modeling repetition — a fundamental property of music — will improve models' abilities to generate coherent, mellifluous music. The work presented the results of novel neural architectures trained on both synthetic and real music data. This research won the 2018 Alumni Award for Undergraduate Excellence.

DID YOU KNOW?

- 1.** The **School of Computer Science** recently announced that it will offer the **nation's first bachelor of science in artificial intelligence**. The program and its curriculum focus on how complex inputs — such as vision, language and huge databases — can be used to make decisions or enhance human capabilities. Five SCS departments partnered to create the program.
- 2.** Our students learn **systems/application skills** but also acquire a deep understanding of **theoretical and mathematical foundations of computation**, making them highly desirable for both **industrial positions and advanced graduate work**.
- 3.** Our **Robotics Institute** was the first of its kind in the world and remains the leader in research, education and innovation in robotics.
- 4.** Our Computational Biology Department offers a **BS in computational biology**. The department, the first of its kind to be created within a computer science school, emphasizes developing rigorous and theoretically sound computational approaches to modeling and understanding how biological systems function.
- 5.** Students in the School of Computer Science can study abroad in various locations, including **Carnegie Mellon University in Qatar's CS program**, located in Doha's Education City.

Carnegie Mellon University

OFFICE OF ADMISSION
CARNegie MELLON UNIVERSITY
5000 FORBES AVENUE
PITTSBURGH PA 15213-3890
T: 412.268.2082
F: 412.268.7838
E: admission@andrew.cmu.edu



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