SCHOOL OF COMPUTER SCIENCE (SCS)

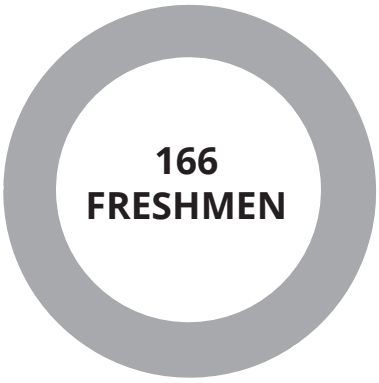
Solving tomorrow's problems today with computer science.

Carnegie Mellon founded one of the first computer science schools in the world. Dating back to 1965, the School of Computer Science consistently ranks among the top computer science programs. By offering many areas of concentration, the SCS undergraduate curriculum ensures that students have the skills to remain current as technology and systems change. Students also have the opportunity to conduct diverse interdisciplinary research.

"I am passionate about the impact of technology (algorithms, cloud architectures, statistics, robotics, language technologies, machine learning, computational biology, artificial intelligence and software development processes) on the future of society. We are lucky to live in such an exciting time of change. I am adamant that the Pittsburgh region in general, and Carnegie Mellon more specifically, are right in the center of all this change."

- Andrew Moore, Dean,
School of Computer Science

FRESHMAN STUDENTS



Popular Freshman Courses

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

SCS Admitted Student Statistics

SATCR*	SATM*	SATWR*	ACTE	ACTM	ACTC
740-800	780-800	740-800	35	35	35

Rank 2% **GPA 3.91** *Middle 50% range

SCS is diverse, having a female population of 36% or more — rare for computer science programs across the United States.

PROGRAMS

Computer Science (BS)
Computational Biology (BS)

Secondary Majors:

Human-Computer Interaction*
Robotics*

Additional Majors:

Bachelor of Computer Science and Arts (BCSA)**
Statistics and Machine Learning (BS)***

* May be taken as a secondary major only

** Interdisciplinary major offered in conjunction with the College of Fine Arts

*** Interdisciplinary major offered in conjunction with the Dietrich College of Humanities and Social Sciences

FACULTY

*Pittsburgh undergraduate research and teaching track faculty

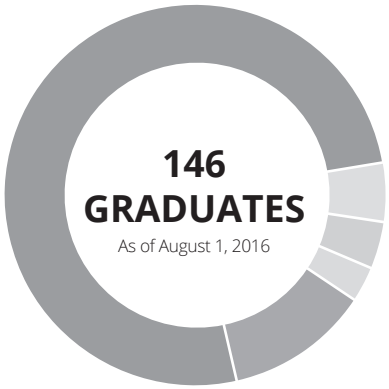
School of Computer Science faculty have won the following awards: Nobel Prize, A.M. Turing Award, Conde Nast Portfolio Brilliant Award, Pop/Sci Annual Brilliant 10, Guggenheim Fellowship Award, Sobelev Institute Gold Medal, Honda Prize and more.

Notable Faculty

- William "Red" Whittaker is the 2012 winner of the IEEE Simon Ramo Medal for his **significant contributions to robotics**.
- Stephen Brookes and colleague Peter W. O'Hearn received the **prestigious 2016 Gödel Prize** for their invention of concurrent separation logic (CSL). CSL enhances the speed of computing systems.
- Mary Shaw is the recipient of the **National Medal of Technology and Innovation** in 2012 for pioneering leadership in innovative curriculum development.

Carnegie Mellon University

GRADUATE SUCCESS



Top Employers

Google

facebook

amazon.com

Microsoft

Palantir

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 51 million followers on Weibo and nearly 1.1 million followers on Twitter.

Student Startups

> Heather Knight (CS 2016) graduated with her Ph.D. in Robotics from Carnegie Mellon's Robotics Institute and is the owner of **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

Compressing Natural Graphs and a Practical Work-Efficient Parallel Connectivity Algorithm

The Internet has triggered an enormous increase in the size of natural graphs such as social networks and Internet link-structures. Processing and representing them efficiently in memory is thus crucial for a wide variety of applications. This research implements a parallel graph processing framework for representing compressed graphs with significantly fewer bits per edge, and a simple and practical expected linear-work, polylogarithmic-depth parallel algorithm for graph connectivity. This research won the 2014 Allen Newell Award for Excellence in Undergraduate Research.

Reconstructing Dysarthic Speech from Cross-Speaker Articulatory Position Data

Dysarthia is a motor speech disorder that results from serious injury. In this project, researchers proposed an alternate approach to constructing a synthetic voice for a dysarthic speaker with the goal of constructing synthetic speech that both sounds clear and preserves distinctive acoustic features of the person's original voice. This research won the 2013 SCS Alumni Award for Undergraduate Excellence.

DID YOU KNOW

1. Students in our program are required to learn both systems/applications skills and a deep understanding of theoretical and mathematical foundations of computation, making them **highly desirable for both industrial positions and advanced graduate work**.
2. Some of the **most popular student groups** in the School of Computer Science include: the ACM@CMU, SCS4ALL, Carnegie Mellon Robotics Club, Game Creation Society, ScottyLabs and the SCS Entrepreneurship Club.
3. Carnegie Mellon's Robotics Institute is the **first of its kind in the world** and remains the world's leader in research, education and innovation in the field of robotics.
4. Our Computational Biology Department will begin offering a **B.S. degree in Computational Biology** in 2017. This department, the first such department to be created within a School of Computer Science, 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

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