SCHOOL OF COMPUTER SCIENCE

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 (SCS) 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.

FIRST-YEAR STUDENTS

138 Freshmen

Favorite First-Year 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
720-800	790-800	730-800	34	35	34

Rank 3%   **GPA** 3.89

SCS is diverse, having a female population of 35% or more — rare for computer science programs across the United States.

PROGRAMS

Computer Science (BS)

Additional Majors

Bachelor of Computer Science and Arts (BCSA)

Human-Computer Interaction*

Music and Technology** (BS)

Robotics*

Computational Biology ***

* May be taken as an additional major only.

** Interdisciplinary major offered in conjunction with the School of Music.

***Interdisciplinary major offered in conjunction with the Mellon College of Science.

FACULTY

282 Faculty

School of Computer Science faculty have won the following awards:

Nobel Prize, A.M. Turing Awards, Conde Nast Portfolio Brilliant Award, Pop/Sci Annual Brilliant 10, Guggenheim Fellowship Award, Sobelev Institute Gold Medal, Honda Prize and more.
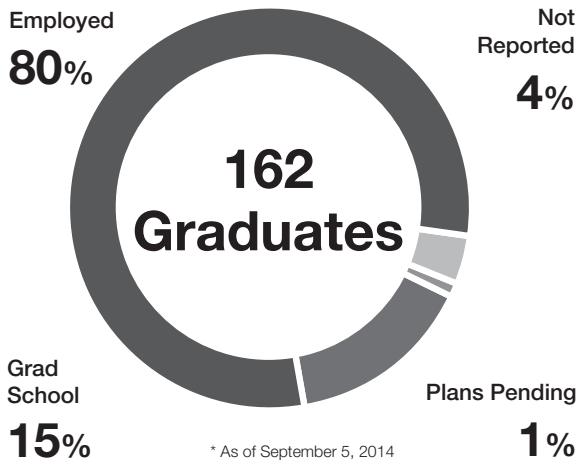
Notable Faculty

- ☐ **William "Red" Whittaker is the 2012 winner of the IEEE Simon Ramo Medal** for contributions to robotics, and the 2012 Columbia Medal from the American Society of Civil Engineers for contributions to aerospace engineering.

- ☐ **Luis von Ahn, a former MacArthur Fellow "genius award" recipient**, is the 2012 winner of the Grace Murray Hopper Award for the outstanding young computer professional of the year.

Carnegie Mellon

GRADUATE SUCCESS

Employed
80%

162 Graduates

*As of September 5, 2014

Not Reported
4%

Grad School
15%

Plans Pending
1%

Top Employers

Google

Microsoft

Palantir

facebook

amazon.com

Alumni Accomplishments

The late professor Randy Pausch (CS'88) 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'80).

Kai-Fu Lee (CS'88) is founder, chairman and CEO of Innovation Works — an incubator for Chinese tech startups. He was listed as **one of** *Time* **magazine's most influential people in the world** which stated, "his embrace of social media lifted him from 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'13) is currently conducting her doctoral research at 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.

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. The School of Computer Science offers an **additional major in robotics**, designed for students who want to explore the field more in depth than it's possible to do through the robotics minor. Although students from any discipline can apply, it's ideal for students already pursuing an undergraduate degree in computer science or engineering at Carnegie Mellon.

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**.

RESEARCH PROJECTS

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.

The Design and Implementation of a Power-Aware Load Balancer

Energy costs for data centers are doubling every five years. However, much of this power is wasted as servers are mostly idle, which can consume as much as 60% of peak power consumption. This research introduces a power management algorithm called AutoScale that reduces power consumption by over 30% while delivering response times that are only slightly longer and still meet service level agreements. This research won the 2011 SCS Alumni Award for Undergraduate Excellence.

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