



## Introducing a one-year Master's degree to train privacy engineers

The **Master of Science in Information Technology—Privacy Engineering** degree is a one-year graduate program for computer scientists and engineers who wish to pursue careers as privacy engineers or technical privacy managers. Designed in close collaboration with industry and government, this program is intended for students who aspire to play a critical role in building privacy into products, services, and processes.

This first-of-its kind program responds to the rapidly growing need for technical privacy expertise. Both industry and government organizations have created positions for people responsible for **ensuring that privacy is an integral part of the design process**. Privacy engineers work as part of multi-disciplinary teams. They have to **understand technology** and be able to **integrate perspectives that span product design, software development, cyber security, human computer interaction, as well as business and legal considerations**. Organizations are reporting a shortage of people who are adequately trained to play this increasingly crucial role.

The MSIT Privacy Engineering program is a full-time masters program for students at Carnegie Mellon's Pittsburgh campus. It requires 162 units to complete and offers two tracks: 12-months (Privacy Engineering) and 16 months (Privacy Engineering Practice). The 12-month program concludes with a summer-long, learning-by-doing capstone project, where students will be brought in as privacy consultants to work on client projects. Students in the 16-month track will gain work experience through summer internships and complete the capstone project in the Fall.

## Training students for jobs in industry and government

Students who complete this program will be well prepared for jobs as privacy engineers and technical privacy managers. Our graduates work for Google, Oracle, eBay, Adobe, and other companies. Students will be trained to:

- design cutting edge products and services that leverage big data while preserving privacy;
- identify points where privacy may be at risk, and propose and evaluate solutions to mitigate these risks;
- understand the capabilities and limitations of privacy enhancing technologies;
- use techniques to aggregate and de-identify data, understand the limits of de-identification and how data might be re-identified, and understand concepts such as k-anonymity and differential privacy;
- understand the current privacy regulatory and self-regulatory frameworks;
- understand current technology-related privacy issues including tracking for online behavioral advertising, location tracking, frictionless sharing, and emerging issues;
- conduct privacy-related risk assessments and compliance reviews, respond to incidents, and integrate privacy into the software engineering lifecycle phases;
- conduct basic usability evaluations to assess the usability and user acceptance of privacy-related features and processes;
- serve as an effective privacy subject matter expert to help interdisciplinary teams simultaneously address legal, engineering, user interface, business, marketing and other requirements.

In addition, students will be prepared for the International Association of Privacy Professionals (IAPP) Certified Information Privacy Professional (CIPP) certification exams, which will be administered to students in the program who become IAPP student members.

Get more information  
and apply online:  
[privacy.cs.cmu.edu](https://privacy.cs.cmu.edu)



## Plan of study

This is a full-time program for students at Carnegie Mellon's Pittsburgh campus. Students will typically begin in the Fall semester and complete the program in the following August or December. Students will take courses in the Fall and Spring semesters and spend the summer working on their capstone projects, or take summer internships and return in the Fall to complete their capstone projects.

## Program requirements

- Core courses:
  - Information Security and Privacy
  - Privacy Policy, Law, and Technology
  - Foundations of Privacy
  - Law of Computer Technology
  - Usable Privacy and Security
  - Engineering Privacy in Software
  - Internship for Privacy Engineering (16 month track)
- Current Topics in Privacy Seminar (two semesters for 12-month track, three semesters for 16 month track)
- 12 units of approved technical electives (one full-semester course or equivalent)
- 24 units of approved general electives (two full semester courses or equivalent)
- Privacy-by-design Capstone Project and Privacy-by-design Workshop

Students may take additional electives or substitute core courses when they have previously taken equivalent courses, if approved by the program directors.

## More information

More information is available on the program website at [privacy.cs.cmu.edu](http://privacy.cs.cmu.edu). Questions may be addressed to the administrative coordinator, Tiffany Todd, at [ttodd@andrew.cmu.edu](mailto:ttodd@andrew.cmu.edu)

## Admissions and tuition

The MSIT Privacy Engineering program is primarily intended for students who already have a technical degree (e.g. degree in computer science, computer engineering, software engineering or equivalent) or have comparable work experience.

Students should apply online to the MSIT Privacy Engineering program via the CMU School of Computer Science application website. Early application deadline begins **September 8, to December 15, 2017**. See [privacy.cs.cmu.edu](http://privacy.cs.cmu.edu).

The program tuition rates are matched each year to rates of the School of Computer Science. Please view our website for current tuition rates. Tuition FY 2016-2017 was estimated to be \$70,500 plus fees for the entire three-semester program. Limited scholarships are available to outstanding applicants.

## Faculty

The program faculty are internationally recognized authorities and collectively bring to the program a wealth of expertise from industry, government and academia. They are often sought as experts by companies and government organizations and invited to speak at leading conferences.

### Co-Directors

Lorrie Faith Cranor and Norman M. Sadeh

### Core Faculty

Alessandro Acquisti, Yuvraj Agarwal, Rebecca Balebako, Lujo Bauer, Travis Breaux, Nicolas Christin, Anupam Datta, Matt Fredrikson, Jason Hong, Michael Shamos

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