

## DAVID J. MALLY

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### EDUCATION

University of Pennsylvania, School of Engineering and Applied Science, Philadelphia, PA  
Candidate for Master of Science in Engineering (2016), Computer Science, Cumulative GPA: 3.57/4.0.  
Bachelor of Science in Engineering (2015), Computer Science, Cumulative GPA: 3.34/4.0.

### WORK EXPERIENCE

**Synack, Inc., Redwood City, CA** Summer 2015, Part-Time Fall 2015

**Software Engineering Intern, Cybersecurity; KPCB Engineering Fellow**

- Designed & implemented plugins in Python for security analysis distributed scanner
- Used Docker, Vagrant, & Ansible to rearchitect development environment
- Conducted research to reverse-engineer mobile API; gathered user data to demonstrate vulnerability

**Edmodo, Inc., San Mateo, CA**

Summer 2014

**Software Engineering Intern, Education Technology**

- Security: Designed Java machine-learning algorithm to remove pornographic links posted by users
- Web Backend: Developed single sign-on service in Ruby on Rails

**National Aeronautics and Space Administration, Hampton, VA**

Summer 2013

**LIDAR & Laser Science Engineering Intern, NASA Langley Research Center**

- Improved performance of laser altimeters using Verilog & FPGA technology
- Saved estimated \$500,000 in engineering labor costs

### UNIVERSITY OF PENNSYLVANIA SCHOOL OF ENGINEERING & APPLIED SCIENCE

**Head Teaching Assistant:** Introduction to Computer Architecture Spring 2013, Fall 2013, 2014, 2015

- Redesigned course assembly simulator
- Rewrote homework assignments; organized and ran seminars; held office hours

**Head Teaching Assistant:** Computer Organization & Design

Spring 2014, 2015

- Led lab sessions on CPU architecture & design
- Labs involved writing a CPU in Verilog and synthesizing it on an FPGA

### SELECTED PROJECTS

**OAT Compiler** (Spring 2015): Developed for compilers course. Supports Java-like objects, nullable references, arrays. Compiler performs several levels of optimization. *OCaml*.

**Flush+Reload** (Fall 2014): Implementation of "FLUSH+RELOAD: a High Resolution, Low Noise, L3 Cache Side-Channel Attack." Y. Yarom, K. Falkner

**Elsie4** (Summer 2014): LC4 assembly simulator. Led team of 5 TAs in design. Core component of CIS 240 curriculum. [elsie4.bitbucket.org](http://elsie4.bitbucket.org). *Javascript, HTML, CSS*.

**PennOS** (Fall 2013): Operating system based on Unix with shell, scheduler, threads, flat file system. *C*.

**WristWalk** (Fall 2013): Bluetooth haptic feedback GPS navigation wristband. *C++, Android*.

### PROGRAMMING LANGUAGE SKILLS

**Proficient:** Python, C, C++, OCaml, Java, Rust, Verilog

**Working Knowledge:** Haskell, Ruby, Javascript

### AWARDS AND HONORS

**University of Pennsylvania Department of Computer Science:** Faculty Appreciation Award

**University of Pennsylvania Department of Computer Science:** Teaching Assistant Hall of Fame  
**Science & Technology Wing, Kings Court English House:** Parliamentarian (2 years)