

EDUCATION

2012 – Present | **Columbia University College of Engineering Class of 2016**

Major in **Computer Engineering**, minor in **Mechanical Engineering**

GPA: 3.40/4.00

Relevant Coursework:

- Computer Science – Programming Languages and Translators; Security Architecture and Engineering; Cryptography; Computer Architecture; Operating Systems; Advanced Programming; Data Structures in Java; Discrete Math; Theory of Computation.
- Electrical Engineering – Embedded Systems; Electronic Circuits; Circuit Analysis; Signals and Systems; Fundamentals of Computer Systems.
- Other – Computer Graphics and Design; Fluid Mechanics; Mechanics of Solids; Statistics and Probability; Cryptography and Number Theory.

WORK EXPERIENCE

Summer 2015 | **Amazon Robotics** (North Reading, MA): **Software Engineering Intern**

- Used Three.js to build an interactive 3D visualizer modeling a container and its contents
- Integrated visualizer into UI of existing internal Ember.js web application
- Wrote Java back end to make service calls and assemble and serve data to UI
- Learned about modular software development, navigating massive pre-existing code base

Spring, Fall 2015 | **Teaching Assistant**

- Fall 2015: Fundamentals of Computer Systems (introduction to architecture and microarchitecture)
- Spring 2015: Discrete Math (combinatorics, number theory, probability, graph theory)
- Held weekly office hours, graded assignments and exams

Summer 2014 | **Gilt Groupe** (New York, NY): **Software Engineering intern**

- Used Clojure to build an API to retrieve data from JIRA's REST API and extract useful information such as mean issue lifespan, number of unresolved issues per user, and length of time after which an issue will most likely go unresolved
- Published at <https://github.com/adamincera/jiralytics>

PROJECTS

dots: A specialized **programming language** designed to facilitate **graph manipulation and analysis**. Semester project for a compilers course in fall 2015 with a 4-person team. Primary responsibility is **compiler architecture**. Compiler will be written in OCaml.

RSA Box: An **FPGA** programmed to perform **hardware-accelerated RSA Encryption**. Built as a semester project for an embedded systems course in spring 2015 with a 4-person team. Primary responsibility was to first build a modular multiplication block and then design a datapath around it to create a modular exponentiation block, all in SystemVerilog. Report, presentation, and source code published at <http://www.cs.columbia.edu/~sedwards/classes/2015/4840/index.html> under the "Projects" header.

TECHNICAL SKILLS

Programming languages: C, C++, SystemVerilog, MIPS assembly, bash scripting, Javascript, Matlab, Python, Java, Clojure.

Electrical Engineering Skills: SystemVerilog, digital and analog circuit design, bench-level test equipment, circuit debugging, circuit-level simulation tools, soldering.

Practical knowledge of **encryption algorithms** including RSA, ElGamal, and Elliptic Curve cryptosystems

Foreign Languages: Spanish (fluent), French (basic)