

## Education

### New York University

3.14 GPA M.S. [Computer Science](#), May 2016

Course:

Distributed Systems

- Implemented scalable NoSQL key-value databases using Google's Go programming language

### University of California, Berkeley

3.01 GPA B.S. [Bioengineering](#), May 2012

Courses:

Operating Systems

- Added Java code to a distributed NoSQL database that used the 2 Phase Commit protocol

Great Ideas in Computer Architecture

- Used C, OpenMP, and Intel AVX to maximize matrix multiplication speed. Implemented a MIPS CPU.

## Experience

### [HyTrust](#), Software Engineering Intern (Jun 2016 to Sep 2016); Mountain View, CA

- Worked on proxy servers that control how to route messages between VMs in different countries.
- Technologies used: Java, Maven, Tomcat, Spring, PostgreSQL, Git, IntelliJ.
- Used Java and Python to implement programs that send summary emails to customers.
- The Python programs used our company's email delivery API and the Jinja2 HTML templating engine.
- Was part of a mission critical team that served many government agencies and financial service companies:  
<https://www.hytrust.com/solutions/data-sovereignty/>

### [E\\*TRADE Financial](#), Software Engineer (Jul 2012 to Aug 2014); Menlo Park, CA

- Worked on the Fraud Prevention team and made tools that allowed fraud analysts to visualize data.
- Used Python to parse log files, generate JSON objects, and generate interactive D3.js visualizations.
- Created a web app (w/ Perl CGI as the backend) that allowed fraud analysts to generate D3.js visualizations.
- The web app also accessed log files from a Hadoop cluster and parsed the log files.
- Implemented custom sorting and filtering features on scatter plot graphs with D3.js.

## Selected Projects

### [Distributed NoSQL Key-Value Database](#):

- Key-Value database that is sharded, replicated, and similar to Cassandra.
- The db uses Paxos to replicate data across nodes, which provides fault tolerance and load balancing.
- Not all nodes are responsible for all data; groups of nodes save certain shards of the data.
- Shard reorganization code allows nodes to join the db's cluster of nodes and scale horizontally.

### [Connect Me](#):

- Used the Scikit-learn Python module to predict future salaries of your LinkedIn connections.
- Won 3rd place in Intuit's hackathon at UC Berkeley: <https://github.com/andrewli/hackintoit2016>

### [Address Book](#):

- Created a Java API that could be used to create address books: [tmnt-raphael.github.io/AddressBook](https://github.com/tmnt-raphael/AddressBook)

## Languages and Technologies

Proficient: Java, Python, Flask, JavaScript, HTML/CSS, Git/GitHub

Exposure: C, Go, PostgreSQL, SQLAlchemy, bcrypt, Jinja2

## Awards

3rd Place, Intuit's Hackathon at UC Berkeley (2016)

Mathematics Achievement Award, Bank of America (2007)