

Charles Lai

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Education

B.S. Computer Science
Cornell University

Graduation: **2016**
GPA: **3.69**

Experience

CORNELL UNIVERSITY

Ithaca, New York

Teaching Assistant

August 2014-Present

- CS 1300: Introduction to Web Design and Programming (Fall 2014)
- CS 2300: Intermediate Web Design and Programming (Spring 2015)
- CS 3410: Computer System Organization and Programming (Spring/Fall 2015)
- Hold office hours, teach lab sections, and create/grade various homework assignments, projects, and exams.

DATADOG

New York City

Intern

May 2015-August 2015

- Worked at Datadog as part of the 2015 hackNY Fellowship program (<http://hackny.org/a/>)
- Created a rich API endpoint that allows users to programmatically create embeddable graphs and visualizations.
- Updated official Python/Ruby API libraries and remedied various XSS errors and SQL injection vulnerabilities.
- Lazy-loaded avatar SVGs asynchronously which improved dashboard/screenboard load times by 5-10%.
- Implemented OpenID 2.0 authentication and login flow in Python/Pylons to support AppDirect SSO.

VERIZON ENTERPRISE SOLUTIONS

Irving, Texas

Intern

June 2014-August 2014

- Utilized bash, sed, and Python to transform raw Salesforce Chatter feeds into parseable and indexable data.
- Developed a naive Bayes classifier in Python to analyze textual sentiment, patterns, and trends in Salesforce.
- Analyzed and reported the end-to-end business metrics of an automated marketing tool to the CIO.

GTA INFORMATION TECHNOLOGY

Shenzhen, China

Intern

June 2013-August 2013

- Developed demo automated trading algorithms using Matlab, XML parsing, and proprietary APIs.
- Implemented moving average, MACD, stochastic oscillator, volume, and support/resistance based strategies.
- Consistently outperformed the CSI300/HKSI yielding 15+% annualized returns on backtests of historical data.

Extracurriculars

CORNELL DATA SCIENCE

Ithaca, New York

Developer

August 2015-Present

- Work on the NBA Win/Loss prediction project. (<http://cornellds.com/pages/current-projects.html>)
- Research machine learning techniques, create a Python/Flask backend API, and build a front-end web application.

CORNELL REIMAGINATION LAB

Ithaca, New York

Research Assistant

February 2014-December 2014

- Helped design Achieve, a mobile goal achievement application that utilizes social accountability and team support to boost motivation using Node and Express. White paper at <http://dl.acm.org/citation.cfm?doid=2559206.2581325>

CORNELL CONCRETE CANOE

Ithaca, New York

Logistics Chair

September 2012-May 2014

- Worked on budgeting tools, sponsor acquisition, logistics, scheduling, and helped plan the regional competition.
- Created an Excel based automatic Gantt chart used to track goals both between and within various sub-teams.

Projects

- **Bitr**: iOS/Node application that allows users to up-vote and down-vote arbitrary locations and objects as well as check-out cool events on a globally shared map. Bitr won the Clusterpoint prize at Angelhacks Manhattan.
- **Venmo Dash**: Venmo web application adding analytics, recurring payments, and future payments features using Node. Venmo Dash won the Braintree prize at Major League Hacking's season finale: Hack the Planet.
- **Distributed Page Rank**: Java/Hadoop program leveraging Amazon EMR to compute page rank on 600,000 nodes.
- **OCaml Map Reduce**: Multithreaded framework utilizing functional programming to parallelize computation.
- **Multicore Network HoneyPot**: C/MIPS multicore network honeypot that processes network packets at 40 mbps.
- **MIPS Processor**: Logisim five-stage pipelined microprocessor that implements the MIPS32 RISC architecture.

Skills

[Proficient] Python, Java, HTML/CSS, Javascript

[Familiar] OCaml, C/C++, Matlab, Bash, SQL, MIPS