

Charles J. Lai

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EDUCATION

CORNELL UNIVERSITY

B.S COMPUTER SCIENCE • ITHACA, NY • GPA: 3.62 • CLASS OF 2016

Coursework: Software Engineering, Distributed Systems, Operating Systems, Algorithms, Machine Learning, AI, Computer Vision, Operations Research

EMPLOYMENT

YELP

SOFTWARE ENGINEER • SAN FRANCISCO • JUL 2016 - PRESENT

- Working on new consumer features as a full-stack web and mobile backend engineer on the Reader Experience team

DATADOG

SOFTWARE ENGINEERING INTERN & HACKNY FELLOW • NEW YORK CITY • SUMMER 2015

- Created new REST API endpoints that allow users to programmatically create embeddable graphs and retrieve user data
- Implemented OpenID 2.0 authentication flow for AppDirect SSO and patched XSS/SQL injection vulnerabilities
- Optimized SVG pattern instantiation to improve dashboard load times and automated domain verification with Amazon Route 53
- Updated Python/Ruby API wrapper libraries, developed new unit tests, and handled live client support tickets

VERIZON

INFORMATION TECHNOLOGY INTERN • IRVING, TX • SUMMER 2014

- Created and trained a Python naive Bayes classifier on a large Salesforce Chatter dataset to analyze textual sentiment patterns
- Analyzed and reported the international, end-to-end business metrics of an automated marketing tool to the CIO

GTA INFORMATION TECHNOLOGY

SOFTWARE DEVELOPMENT INTERN • SHENZHEN, CN • SUMMER 2013

- Developed technical indicator based trading algorithms in Matlab (MACO, MACD, support/resistance, variance, oscillator, and more)

ADDITIONAL EXPERIENCE

SYSTEMS PROGRAMMING TA

CORNELL UNIVERSITY • CS 3410 • JAN 2015 - DEC 2015

- Helped teach systems concepts on assembly, processors, memory hierarchies, operating systems, C, and multicore architectures
- Taught bi-weekly sections, graded projects, held office hours, proctored exams, and revamped course projects

WEB DEVELOPMENT TA

CORNELL UNIVERSITY • CS 1300/CS 2300 • AUG 2014 - MAY 2015

- Helped teach beginner and intermediate web programming concepts on HTML, CSS, JS, HTTP, and security on a LAMP stack
- Taught bi-weekly sections, graded projects, held office hours, and gave optional, mini-lectures on modern web technology

SOFTWARE DEVELOPER

CORNELL DATA SCIENCE CLUB • CORNELL UNIVERSITY • AUG 2015 - DEC 2015

- Created Python/Flask server that runs a precompiled classifier on scraped ESPN data to predict NBA game outcomes
- Provisioned the Tornado backed server on DigitalOcean which exposes API endpoints to a Javascript web application
- Final classifier utilizing gradient boosted decision trees converges to 68-71% accuracy on validation datasets

RESEARCH ASSISTANT

REIMAGINATION LAB • CORNELL UNIVERSITY • FEB 2014 - DEC 2014

- Worked on a Node.js mobile goal achievement application that utilizes social accountability and daily check-ins to boost success
- Explored concepts and practical implementations of ephemeral social networks and how to build communities inorganically

SELECTED PROJECTS

INARI

Most Polished @ GDIAC 2016

Honorable Mention @ Boston FIG 2016

Mobile platformer with unique touch controls and a novel rotation mechanic built for iOS using Cocos2d-x and C++

RESILIENT SESSION MANAGER

Java distributed session manager that utilizes RPC and a Gossip protocol via UDP packets for Amazon EC2/EB

BITR

Clusterpoint Prize & 3rd Place @

Angelhacks Manhattan 2015

Swift/Node/iOS application that allows users to up-vote arbitrary locations and follow friends on a globally shared map

GOMOKU AI

Javascript 2-level Minimax Tree based AI that utilizes Negamax and alpha-beta pruning to play Gomoku

VENMO DASH

Braintree Prize @

Hack the Planet (MLH Season Finale)

Node/Express web dashboard adding analytics, recurring payments, and scheduled payments to Venmo

DISTRIBUTED PAGE RANK

Java/Hadoop MapReduce framework that efficiently computes PageRank on 600,000 nodes using Amazon EMR