Lingyi Li

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EDUCATION

University of Southern California Aug 2016 - May 2021
B.S. and M.S in Computer Science, Minor in Cinematic Arts GPA 3.5

SKILLS

Languages: **Java**, **C++**, **JavaScript**, **HTML**, **CSS**, Swift, C, SQL, Python
Tools: Git, Linux, Node.js, Firebase, Google Cloud Platform, Express.js, Bootstrap, EJS, AJAX, JSON, D3, Passport.js, JDBC, JSP, Puppeteer, Ava, Travis, Bitbucket, Apache Tomcat, GDB, Arduino, FileZilla, Zapier, SDL, OpenGL

WORK EXPERIENCE

Software Engineer Intern May 2019 - Aug 2019
Blue Fever, Inc. *Marina del Rey, CA*

- Designed and implemented a full-stack web app the referral dashboard based on requirements from the marketing team through biweekly meetings to improve their experience of managing the referral data.
- Built a three-page website with a Google OAuth login using EJS, Passport.js, Bootstrap, and D3 to visualize sortable referral counts tables with pagination, editable referrer profiles, and weekly statistics graphs.
- Automated the main incentivizing feature via reward status checklists using JavaScript, Node.js, Express that accelerated the calculating time per reward from 5 minutes to 2 seconds.
- Refactored and transferred data in excel to Cloud Firestore to compute referring behavior and network.
- Deployed on GCP and verified the functionalities via Puppeteer and AVA testing with 170k dataset in Firebase.

Teaching Assistant - *Discrete Methods in CS*, *Introduction to Algorithms* Spring 2018, Spring 2019
USC Viterbi School of Engineering *Los Angeles, CA*

- Assisted classes of over 280 students with concepts and problems in dynamic programming, greedy algorithms, divide and conquer, network flow, NP, big O runtime, proofs, graphs and probability through weekly office hours.

Software Engineer Intern July 2017 - Aug 2017
Intel Corporation *Beijing, China*

- Performed performance analysis of Google's image compression algorithm Guetzli under Broadwell and Skylake CPU, single and multiprocessing environment in a CentOS terminal.
- Compared compression rate, time and memory usage with Libjpeg-turbo and authenticated that Guetzli compresses jpeg images with an additional 15% without loss of quality detectable by human eyes.
- Diagnosed the exact line of code in convolution which takes 90% of compression time for future improvement opportunities via Intel VTune Amplifier's hotspot analysis.
- Delivered a 20-page report requested by customer JD.com, Inc. for performance optimization.

PROJECTS

Website Generator

- Programmed a five-page website generator in Java which assists professors to display course information based on their uploaded files with style choices utilizing JSON, HTML, and CSS.
- Implemented features including searching for staff members and lectures, filtering schedules, and sorting assignments using JavaScript and AJAX to advance students' learning experience.
- Created a MySQL database to insert and update course information using JDBC and SQL queries.

Parkour's Edge Game

- Built a 3D first-person parkour game in C++ using SDL library to map textures from multi-level JSON files, display TrueType timer and HUD radar maps, access keyboard/mouse inputs, and play sound effects.
- Accomplished features for users to run, jump, fall and clime on rotating blocks with a spring follow camera using 3D vectors, matrices, Euler integration, axis-aligned bounding boxes, inheritance, and polymorphism.
- Used quaternions to yaw/pitch/roll reflecting lasers, distance-sensitive security cameras, and collectible coins.

Exchange App

- Coded an multi-view iOS app in Swift for users to buy and sell merchandises using MVC design pattern.
- Stored login/register data on Firebase and achieved bilingual functionality by localization/internationalization.