# Haoyang Liu (Vincent)
## Software Engineer

## Contact

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## Objective

Upcoming MS graduate offering proficiency in software development across multiple platforms with 2-year industrial experience

Mastered modern web technologies; experienced with software development life cycles, including design, develop, test, deploy and maintain

A quick learner, a problem solver, a challenge acceptor, and a cooperative person

## Language

Java, Python, Javascript, PHP, SQL, Swift, HTML, CSS

## Tools and Standards

Spring MVC, Spring Boot, Flask, Django, Node.js, Bootstrap, SASS, React.js, Angular.js, Android, AJAX, JSON, XML, WebSocket, Docker, Nginx, AWS EC2, ALB, Apache Kafka, MySQL, PostgreSQL, Firebase, MongoDB, RESTful, MVC, TCP/IP

## Education

M.S. in Software Engineering, San Jose State University — 2020 - 2022, GPA: 3.7

B.S. in Software Engineering, San Jose State University — 2015 - 2018

## Work Experience

**Learn Education**, Freelancing Part-time Developer, Remote — Apr 2020 - Aug 2020

- Developed a website where different user groups (student, teacher, admin) can post content to different sections(course, blog, news, forum), which will be reviewed by system admin before being published (http://otp.whv.mybluehost.me/)
- Applied clean MVC structure and Restful CRUD standard with **PHP, MySQL, HTML**, **Bootstrap**, **SASS**, **JS**, **jQuery** and **CKEditor**
- Managed development life cycles with Agile methodologies and achieved 100% requirement delivery

**DocSpot**, Full-Stack Developer, San Jose, CA — Oct 2018 - Oct 2019

- Developed a **web crawling system** using **Java** interfacing **Chrome Devtools Protocol** and **Headless Chromium,** that successfully collect or update 10M healthcare data records over 800+ websites quarterly for end user to use; added **Kafka** message queue which greatly increased overall throughput of data update(from 1 iteration per quarter to 1 iteration per month)
- Developed a restore feature for the web crawler by persistence of its progress data in **Java**, **JSON**, and **MySQL**, which made the crawler continue from the previous run; improved its efficiency by at most 70%, measured by average finish time
- Developed a **data analyzing** program to help identifying clinic or hospital sites from a large amount of urls by applying keyword filtering using **Java** and **MySQL**; visualized the result with **React.js** and **D3.js;** the overall filtering accuracy increased 40%
- Developed service worker which defined **caching** policies for client-side assets and API calls; reduced the load time of most of pages to less than 1 seconds (measured by Google Lighthouse) and increased the usability to end users
- Implemented Most Recent Use data structure on providers' specialty categories (such as, "Cardiology" or "Dental"); **cached** response data in **Redis** to greatly enhanced response time of common queried specialties for 80% of end user's need
- Optimized UI and fixed frontend issues for most of the pages using **React.js**, **CSS, Javascript** and **Spring Boot**, which brought 20% potential users monthly according to Google Analytics

## Internship Experience

**CTI One Corporation**, Software Engineer Intern, Santa Clara, CA — Sep 2017 - Feb 2018

- Implemented image augmentation for deep learning model training using rotation and Gaussian blur in **OpenCV Python,** which improved the augmentation efficiency by 70%
- Conducted **performance testing** by adding round trip timestamp between different code blocks; detected the IO problem and removed the major latency; increased the overall run-time efficiency by 60%
- Corrected lane detection and turning logic with OpenCV, which made the autonomous vehicle successfully following the lane

**DHTHX Tech. Co., Ltd, Software Engineer Intern,** Dalian, China — May 2017 - Aug 2017

- Built enterprise product management desktop app using C# .NET interfacing Oracle database; successfully learned basic C# .NET development and basic database CRUD operations

## Projects Experience

**HomeFinder**, [homefinder.haoyangliu.com](homefinder.haoyangliu.com)

- Developed a real estate website that different user group can search, rent, buy, or list properties using **React.js**, **Python Flask**, Flickr **CDN,** and **MySQL**; deployed on **GCP** with **Docker** container and added **Nginx** as a proxy server
- Added **message queue(Kafka)** to mitigate potential traffic spikes for image uploading, which made the system more stable.
- Managed the team and development process using **Agile** methodologies as a scrum master; held weekly scrum meetings, recorded progress with **burn-down** chart, organized backlog items, assigned tasks, and conducted retrospective meetings

**Investment Assistant,** [invest.haoyangliu.com](invest.haoyangliu.com)

- Developed a web app using **Flask** that assists users to make smart investment decisions on stocks and ETFs**;** developed a service that regularly caches and updates **Yahoo Finance(yfinance)** data with **Redis**, which greatly reduced the delay(80%) of API query
- Used **ThreadPoolExecutor** to make the data service and web app backend run in parallel

**Job Scraper**

- Designed and developed a job searching automation tool for personal use using **Python Selenium** and **Firebase Realtime Database**; encapsulated common web-browsing behaviors to make the program reusable for multiple site

**AV Rental Cloud**

- Designed and developed a cloud system which supports autonomous vehicle rental on virtual environment using **React.js**, **Django**, **Carla Simulator, PostgreSQL** and **MongoDB;** deployed on **AWS EC2** with **ALB**

**Smart Lock**

- Designed and developed an IoT project that users can remotely control their home door lock with an ios mobile app. software: **Swift**, **Python**, **Flask**, **MQTT, PostgreSQL;** hardware**:** Nvidia **Jetson Nano**, **ESP32;** deployment: **AWS EC2**