# Zhuang Liu

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Irvine, CA

**EDUCATION** 

University of California, Irvine

M. S. in Networked Systems

Dept. of Computer Science, ICS & EECS Joint Program

Zhejiang University

B. S. in Resource Science

Environmental Resource Information System & Remote Sensing Track

Hangzhou, China

Sept '18 - June '20

Sept '14 - June '18

SKILLS

Languages Tools Frameworks Java, JavaScript, Python, Swift, Objective-C, Bash, SQL, IATEX git, AWS, RESTful APIs, MongoDB, MySQL, Docker, Vi/Vim Vue, Angular, Node, Express, Django, Cocoa

EXPERIENCE

# Software Development Engineer Intern

WeiEase Tech

Hangzhou, China Mar '18 - July '18

- Crafted search result views in Objective-C and optimized CRM search logic layer
- Transferred and rearchitected parts of UIKit Cocoapod from Objective-C to Swift
- Developed an admin dashboard for content management using Vue.js and Element UI

## PROJECTS

#### Distributed Search Engine

Python / Scrapy / MySQL / Redis / ElasticSearch / Django

Jan '18 - Mar '18

- Devised crawl spiders to retrieve and extract raw  $\mathbf{HTML}$  from websites by  $\mathbf{Scrapy-Redis}$  framework
- Broke through anti-crawling by user-agent switching, IP proxy, auto-verification code recognition
- Rewrote Downloader Middleware with  ${\bf Selenium}$  and  ${\bf Phantom.js}$  for dynamic web pages crawling
- Developed suggester, search history and auto-complete features with Django and ElasticSearch

## MEAN-Stack Online Message Board

Angular / Node.js / MongoDB / Express.js / TypeScript

Dec '17 - Jan '18

- Designed and developed responsive SPA using  ${\bf Angular\ Material\ Design}$  components
- Deployed RESTful Microservices using Express.js, Node.js and MongoDB as backend
- Implemented  $\mathbf{J}\mathbf{W}\mathbf{T}$  authentication, optimized user experience with  $\mathbf{A}\mathbf{J}\mathbf{A}\mathbf{X}$  and  $\mathbf{Bootstrap}$  layout

#### Socket.io Chat System

 $Socket.io \ / \ Unity \ / \ C\# \ / \ MVC \ / \ Web View \ / \ MySQL \ / \ jQuery$ 

Sept '17 - Nov '17

- Implemented message transmission feature by WebSocket network protocols
- Developed WebSocket server in C# to parse protocols and manage chat message transmission
- Built UI Components by Unity, utilized WebView controller in parallel Android chat system

## iOS Machine Learning Vector Calculator

Swift / Cocoa / Python / Core ML / Core Data / SQLite / Realm

Mar '17 - June '17

- Converted MNIST database into MLModel by Core ML tools to recognize handwritten equations
- Developed a **SQLite** database back-end for local **Core Data** management using **Datum**
- Deployed Realm method for historical mathematical computing data persistence