

GARFIE CHIU

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➤ EXPERIENCE

Groupon, Software Development Engineer, Android

Aug. 2019 - Current

- Worked as part of a small team to overhaul significant user facing features
- Created and open-sourced KatMaps, a declarative abstraction on Google Maps with additional features
- Mentored team in learnings talks on Katmaps and Odo improvements
- Coordinated phased rewrite of UI cards to separate business logic from views
- Created indoor positioning app with turn-by-turn navigation and waypoints to help employees navigate the office
- Frameworks used: RxJava, Toothpick DI, Google Maps SDK

BMW Technology Corporation, Software Engineering Intern

May 2018 - May 2019

- Developed and presented an Android library to streamline use of multiple geographical map providers
- Created an Android app to enable digital payment of snack purchases for employees
- Assessed impact of Findmate with Android Oreo behavioral changes
- Investigated state of automated UI testing on the Android platform for UX validation
- Deployed smartphone testing farm with Docker for efficient remote testing on devices
- Refactored legacy login system to replace RxBindings into combined observable streams
- Worked to optimize Gradle build scripts for the BMW Connected App
- Frameworks used: RxJava, RxJava 2, Dagger, Retrofit, Google Maps SDK, Here Maps, AutoNavi

Engineering Design Team, System Administrator

May 2017 - May 2019

- Maintained and secured Ubuntu server running various critical services
- Identified issues and fixing various legacy websites
- Assessed server hardware and software for performance bottlenecks
- Created a testing server for testing fixes and staging purposes
- Migrated content to new website

➤ PROJECTS

KatMaps

- Developed a Kotlin wrapper library for the Google Maps Android SDK
- Open sourced from Groupon as part of a feature redesign
- Declarative interface, eliminated need for dedicated imperative initialization logic
- Reverse engineered Bounds API to provide more precise map bounds
- Implemented a label hiding using a graph coloring technique

Where Am I

- Developed a cross-platform API that determines location with room-level precision
- Assessed feasibility of using fingerprinting network signal strengths for geo-fencing
- Explored various platforms' system APIs for data collection
- API written in Kotlin using the facade pattern

Course Availability Tracker

- Created an application that polls course registration pages to check for availability
- Analyzed server responses using Burp Suite to examine site behavior
- Utilized AutoRemote API to send notifications to Android devices
- Program written in Python using the Beautiful Soup library

Ventra Card Emulation

- Researched EMV smart card communication protocols
- Interpreted test card data to simulate a RFID transit card via NFC
- Captured APDU responses from a card using an android APDU emulator
- Created a proof-of-concept Android app to further test findings
- Used Android Studio, Java, and host-card emulation APIs

➤ SKILLS

LANGUAGES: Kotlin, Java, PHP, SQL, Python 3, C++, C, HTML/CSS

TOOLS: Android Studio, Git, Gradle, Docker, Apache, MySQL, Vim

➤ EDUCATION

University of Illinois at Chicago

Computer Science B.S. (Spring 2019)