





Shahbaz Momi

Software Engineering @ University of Waterloo

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Skills

Languages: Kotlin, Java, JavaScript, C, C++, Python

Technologies: AndroidX, React, RxJava, Dagger2, Spring Boot, MongoDB

Work Experience

[Ford](#), Autonomous Vehicles Software Engineering

September - December 2020

- Working alongside dispatch team to provide a fully autonomous Robotaxi service, including routing, dispatch, and navigation

[TradeRev](#), Software Engineering Coop

January - April 2020

- Rewrote home screen of Android app using Kotlin, AndroidX, and MVVM architecture resulting in a **75%** performance improvement, **50%** reduction in memory usage and a **65%** CPU usage reduction
- Increased user retention by **13%** driving a **6%** gain in sales through Android app by rewriting auction listings UI using Kotlin Coroutines + Flow, RecyclerView, and Koin Dependency Injection
- Refactored backend live auction platform using Spring Boot and Kafka streams, reducing response times by **60%**

[Dayforce Ceridian](#), Android Developer Coop

May - August 2019

- Implemented in-app updates with Play Core providing suggested and forced updates, and deployed to **2M+** users
- Developed contacts autocomplete UI in Java using Retrofit and RecyclerView, averaging **50,000 users/day**
- Created internal push notification tooling (standalone app) with custom JSON parsing, syntactic highlighting, and format error detection using Kotlin and deployed to **120 devs** reducing notification creation time by **60%**
- Fixed over **60** client and QA reported bugs, helping to increase the **crash-free rate** to **99.89%** (up from 98.52%)

Projects

[See all](#)

BeHome | C++, Kotlin, TypeScript, React, Spring Boot, CNNs, MQTT

Smart home hardware learning from the way you move

- Designed and prototyped schematics, PCBs, and assemblies for smart lighting, switches and outlets
- Wrote embedded device software in C++ using RTOS and hardware-level drivers (SPI, I²C, and flash)
- Trained Convolutional Neural Network (MobileNet + YOLOv2 backend) to object detect on incoming RGB stream
- Developed controller software using Kotlin with Spring Boot + MQTT to orchestrate all devices on the network
- Created client side hub UI with Typescript and React updating in realtime with the controller over Websockets

[Compass](#) | Swift, ARKit, RealityKit, SpriteKit, Python, Flask

iOS app for discovering live Facebook events and recommendations near you in AR

- Developed iOS app using Swift, ARKit, and RealityKit with an AR view to place labels above buildings of live events happening in the users vicinity, providing event information views when those labels are tapped with RSVP functionality
- Used CoreLocation to determine user's location along with their compass and accelerometer to geolocate the AR scene
- Implemented a KNN algorithm to compute user's close friends through Facebook's Graph API, and then suggest relevant events based off of common interests of those close friends, gathered from their posts, likes, and events

Education

Bachelor of Software Engineering, 3A term, University of Waterloo

September 2018 - Present

Last term GPA: 3.9/4.0, 91%

Extras

- HackTheNorth, [Compass](#), Facebook sponsor **3rd place** out of 1,090 participants September 2019
- HackTheSix, [Realm](#), AWS sponsor **1st place** out of 263 participants August 2019
- EngHacks, [FrameAR](#), overall **1st place** out of 128 participants, StdLib 1st place prize June 2019