William **Qin**

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Skills

Languages: Java, Go, TypeScript, JavaScript, C#, C/C++, Python, Scala, HTML, CSS
Tech/APIs: OpenCV, ARCore/ARKit, VR, Arduino, Raspberry Pi
Web: React/React Native, AWS, Kubernetes, Terraform, MongoDB, Firebase, Node.js
Tools: Git, Bash, Unix, Unity, Ansible, Docker, Android Studio, Xcode, Visual Studio, VSCode, IntelliJ

Experience

Full Stack Developer | **Spatial** | San Francisco, CA (Remote) — Jan. 2021 – Apr. 2021

- Developed backend endpoints in **Go** with **MongoDB** to support new pro features, driving growth of paying users by **10x**
- Streamlined sharing and onboarding process in **TypeScript React** webapp to decrease user drop-off rate
- Implemented custom JSON Web Token authentication to allow users without accounts to participate in meetings
  - Significantly reduced the cost of adoption among new users with a **27%** conversion rate from guests to sign ups
- Deployed **Fluentd** logging service to **AWS EC2** servers to reduce time to repair backend from **5 hours to 30 minutes**
- Migrated web services to **Kubernetes** using **Terraform** and **Docker** for a declarative and more reliable infrastructure

Mobile Augmented Reality Developer | **Spatial** | San Francisco, CA (Remote) — Apr. 2020 – Aug. 2020

- Ported the entire Spatial holographic meetings app to a **mobile iOS/Android AR app** to significantly expand meeting accessibility to users without AR/VR headsets, now making up **20%** of all active users
- Built a **TypeScript React Native** project on top of a **Redux**-style state system in **Unity C#** for a modular and native UI layer with significantly reduced build times
- Designed and developed an intuitive mobile AR interaction system with Microsoft's **Mixed Reality Toolkit**
- Led weekly internal bug testing sessions to improve reliability, gather feedback, and identify key priorities

Lead Programmer | **Team 4308: Absolute Robotics** | Mississauga, Ontario, Canada — Sep. 2017 – Jun. 2019

- Developed manual and **autonomous** driving modes in **Java** on a **CAN-Bus** networked robot, leading the team to success as **world championship semi-finalists** in the 2018 FIRST Robotics Competition
- Built and refined a multi-version **web app** with **Firebase hosting and database**, **Bootstrap**, and **jQuery** to collect, display, and analyze data, informing match strategy and alliance selection

Projects

Vision Motion | Android Application — Oct. 2017 – Jan. 2020

- Launched a motion tracking app on the Google Play Store with **2270+** total installs and **400+** peak active users, facilitating lessons and experiments in physics for university researchers and high school teachers and students
- Leveraged real-time computer vision with **OpenCV** on a phone to track and graph the motion of an object
- Integrated **Firebase database and authentication** to allow users to save and upload their data for use across devices

Disco Alarm | IoT Application | Hack the 6ix – **Finalist** — Aug. 2018

- Created a silent LED sunrise alarm clock with customizable patterns/colours using a **Raspberry Pi** programmed in **Python**
- Implemented **voice control** with Alexa by using **Node.js** in an **AWS Lambda** function connected to **AWS IoT** via **MQTT**

Education

Bachelor of Software Engineering — 2019 – 2024
University of Waterloo

- 98% Average, Term Dean's Honours List

Interests & Activities

Snowboarding, taekwondo, volleyball, baking
Board games, video games, game design & development
3D CAD, woodworking, metalworking, and machining