# Daekun **Kim**

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## Skills

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|---|---|
| **Back-end** | Go, PostgreSQL, Redis, Node.js, Express, Python, Java, PHP, REST API |
| **Front-end** | React, TypeScript, JavaScript ES6, HTML5, SASS |
| **DevOps** | AWS, GCP, Docker, Kubernetes |
| **3D Graphics** | Unity, C#, AFrame, Three.js, AR.js, C++, HLSL, Mixed Reality Toolkit, OpenGL |

## Work Experience

### Promethium ⚲
*Menlo Park, CA*

SOFTWARE ENGINEERING INTERN — *Jan. 2021 - Present*

- Architected an end-to-end serverless no-code analytics SaaS application using **AWS AppFlow**, **S3**, **Athena**, **QuickSight**, and **Glue** to provide **10x** cheaper solution than competitors.
- Contributed to the internal provisioning of cloud backend using **AWS CloudFormation** and **AWS S3** to achieve a scalable infrastructure.
- Delivered an automated cloud backend architecture using **AWS EC2**, **Lambda**, and **Amazon VPC** with an enterprise-level security.

### Scena 360 Co. ⚲
*Waterloo, ON*

CO-FOUNDER & STAFF SOFTWARE ENGINEER — *Oct. 2020 - Present*

- Co-founded Scena 360, a web-based virtual reality meetup platform offering a more realistic experience for the post-COVID world.
- Developed a websocket server for WebRTC signalling using **Redis** and **Go** and deployed on **Kubernetes** cluster hosted on **GCP**.
- Implemented a 3D peer-to-peer multi-user experience using **TypeScript**, **React**, **WebRTC** and **AFrame** with **near-zero latency**.
- Delivered a UX-optimized web application using **React** and **AFrame** for both desktop and mobile environment.

### University of Waterloo Human-Computer Interaction Lab ⚲
*Waterloo, ON*

UNDERGRADUATE RESEARCH ASSISTANT — *Sep. 2020 - Present*

- Working under Professor Daniel Vogel, Jeremy Hartmann and Johann Wentzel to investigate the effect of depth perception in VR interaction.
- Architected an **ISO-compliant** VR experiment flow using **Unity**, **C#**, and **Steam VR** to ensure the experiment's cross-platform compatibility.
- Built an end-to-end ELT data analysis pipeline using **Python**, **AWS S3**, **PostgresSQL** and **Pandas** to efficiently analyze **12M+** data points.

### Spatial ⚲
*New York, NY*

AR/VR SOFTWARE ENGINEERING INTERN — *Apr. 2020 - Aug. 2020*

- Integrated **articulated hand tracking** to Spatial's input system to provide over **10K+ Oculus Quest users** a next-generation interaction.
- Constructed a bridge using **Unity** and **C#** to retrofit the existing Microsoft's Mixed Reality Toolkit with Oculus's input system.
- Delivered a new teleportation mechanics for hand tracking, setting an important **UX precedence** in 3D VR interaction.
- Implemented interactable web browser in AR/VR using **C#** and **HLSL shader** to allow live web browsing in collaborative sessions.

### Virtro ⚲
*Vancouver, BC*

JUNIOR DEVELOPER — *Jul. 2018 - Aug. 2018*

- Built a scalable backend for Slack-integrated chatbot using **Node.js**, **Express**, **MySQL**, **AWS EC2** and **REST API** design.
- Ported The Station™ (Sci-Fi FPS Indie Game) from PC to **PSVR, Oculus Rift and HTC Vive** using **Unity** and **C#**.
- Optimized a VR game to achieve **130%+ increase** in performance (30 FPS →70+ FPS) using **Unity**'s light baking process.

## Education

### University of Waterloo
*Waterloo, ON*

CANDIDATE FOR BACHELOR OF SOFTWARE ENGINEERING, HONOURS (CO-OP) — *Sep. 2019 - Apr. 2024 (Expected)*

- Cumulative Average: 94.1% (4.0 GPA)
- Colonel Hugh Heasley Engineering Scholarship ($10,000)
- President's Research Award ($1,500)
- Presidential Scholarship with Distinction ($2,000)

## Extracurricular Activity

### UW VR
*Waterloo, ON*

DIRECTOR OF TECHNOLOGY — *Sep. 2020 - Dec. 2020*

- Hosted a serverless WebAR workshop for **20+** students using **AFrame**, **HTML5**, and **JavaScript ES6**.
- Researched latest VR/AR industry updates and reflected them in club events.

### The Water Boys
*Waterloo, ON*

VOCALIST — *Sep. 2020 - Present*

- Performed as Baritone 1 singer as part of lower-voice acapella group.
- Chosen as the term's soloist for "Little League" by Conan Gray.