

# DAEKUN KIM

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## Skills

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### LANGUAGES

C#, C++, C, Python, JavaScript, Java, HTML/CSS, Bash

### TOOLS

Unity, Mixed Reality Toolkit, Node.js, MySQL, AWS, REST, OpenGL, Tensorflow

## Work Experience

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### AR/VR SOFTWARE ENGINEERING INTERN

Spatial, Apr 2020 - Aug 2020

- Transitioned Spatial's interaction medium to an **articulated hand interaction** to unlock the full potential of spatial manipulation in collaborative sessions for over **10,000 Oculus Quest users**, by bridging Oculus's input system with Microsoft's **Mixed Reality Toolkit** using **Unity and C#**.
- Developed a hand interaction-based teleport and turning mechanism based on the **instinctual interaction** design philosophy, by **working closely with the founder** in the design iteration process.
- Implemented an in-app web browser to enable a live document editing on device.

### JUNIOR DEVELOPER

Virtro Entertainment, Jul 2018 - Aug 2018

- Optimized a VR port of *The Station™* (Sci-Fi FPS Indie Game) for **PlayStation VR, Oculus Rift and HTC Vive** platforms using **Unity's** light baking process, producing over **200%+ increase** in performance (FPS count)
- Built a streamlined, scalable backend for Slack-integrated chatbot using **Node.js, MySQL, and REST API design** to automate the manual payroll system and to keep track of team's punch-in's and punch-out's.

## Projects

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### WIZARD CHESS [daekunkim.com/?project=10](https://daekunkim.com/?project=10)

Hack the North, Sep 2018 - Dec 2018

- Awarded **Winner/Finalist** out of over 250 teams in **Hack the North 2018** by recreating "Wizard Chess" from the *Harry Potter* series in VR using **Unity** and **C#**.
- Utilized **IBM Watson's speech-to-text technology** for giving orders to the chess pieces to achieve intuitive in-game interaction.

### REACTOR ENGINE [daekunkim.com/?project=2](https://daekunkim.com/?project=2)

Personal Project, Sep 2016 - Mar 2017

- Developed an **OpenGL**-based game engine for Mac OS X with a **scripting framework** built with **C++** to achieve an efficient GPU-based rendering of 3D objects.
- Implemented **entity-component-system framework** as the design structure to produce a maintainable code base.

### POGO UNPLUGGED [daekunkim.com/?project=12](https://daekunkim.com/?project=12)

SE 101 Group Project, Sep 2019 - Dec 2019

- Developed a self-driving car that automatically plays Pokémon Go and collects items in PokéStops around the University of Waterloo campus using **Node.js** and **Python**.
- Implemented basic autonomous driving; used **Socket.io** to create a socket connection between **AWS EC2** server and **Raspberry Pi**.

## Education

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### HONOURS SOFTWARE ENGINEERING, CO-OP

University of Waterloo, 2019-2024 (Expected)

- Cumulative Average: 93.4% (4.0 GPA)