DAEKUN KIM

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Skills

LANGUAGES C#, C, C++, SQL, Python, Java, HTML/CSS/ JavaScript, Bash
TOOLS Unity, Mixed Reality Toolkit, Node.js, MySQL, Express, AWS, REST, OpenGL, TensorFlow

Work Experience

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**, **Express**, **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.

SOFTWARE DEVELOPER, QUALITY ASSURANCE
HeadCheck Health, Aug 2017

- Led the development of the athlete registration automation software using **Java** which **reduced the redundancy by over 99%** for a prospective concussion-diagnostics software startup.
- Worked with the QA team to implement **JUnit** test cases for iOS, Android and web using **Java** and **Selenium** WebDriver.

Projects

WIZARD CHESS 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
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
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, Express** and **Python**.
- Implemented basic autonomous driving; used **Socket.io** to create a socket connection between **AWS EC2** server and **Raspberry Pi**.

Education

HONOURS SOFTWARE ENGINEERING, CO-OP
University of Waterloo, 2019-2024 (Expected)

- Cumulative Average: 93.4% (4.0 GPA)