Shawn Gao

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SKILLS

- **Languages:** C#, Python, Java, C++, Swift, HTML, CSS, JavaScript, SQL, Verilog
- **Technologies/Tools:** Unity, Git, Slack, Jira, Figma, Hardware Development
- **Methodologies:** Scrum, Agile, Kanban

EDUCATION

Simon Fraser University   Sept.2022 – Dec.2024
Master of Digital Media | Centre for Digital Media

University of Oxford / Radboud University   Jul. 2021 – Sept. 2021
Human-Computer Interaction | Summer School

Hefei University of Technology   Sept. 2018 – Jul. 2022
B.Eng Computer Science and Engineering

INDUSTRY EXPERIENCE

Unity Developer *(Academic-Industry Partnership)*   May. 2024 – Present
CDM | Yumebau Inc.   *Vancouver*

- Develop Mixed Reality **(MR)** game using **Unity** and **C#**, iterating product prototypes and implemented designs.
- Deploy user interaction operations leveraging **Meta MRUK**, Develop **8+** new mechanisms and iterations for the project.
- Collaborate in refactoring the Dependency Injection **(DI)** pattern of the project and Inversion of Control **(IoC)**, switch from **Zenject** to **VContainer** and significantly enhanced the reliability and performance by **50%**.
- Collaborate with internal engine dev team through **Slack**, responsible for new features related to **procedural generated level**.`

Unity Developer *(Academic-Industry Partnership)*   Jan. 2024 – Apr. 2024
CDM | Vancouver Community College   *Vancouver*

- Develop a VR **training simulator** for education purpose using **C#** and based on component-based **OO Design**.
- Design the overall development architecture of the project as the lead of the development team.
- Implemented the **observer pattern** to decouple system modules, enhancing scalability and reducing potential bugs.
- Managed version control using **Git**, ensuring seamless collaboration and integration of feature branch.

Instructional Assistant   Sept. 2023 – Apr. 2024
Simon Fraser University   *Vancouver*

- Facilitate **agile** development across multiple platforms, deploying solutions using **HTML, C#, and Swift.**
- Assist in teaching the graduate course DMED 540: Multi-Platform Media. Provide consultancy and supported student teams in **troubleshooting** and resolving bugs in product prototypes.
- Mentored 15+ students, leading workshops on **agile** development and best practices.

PROJECTS

MuralView AR – Information Guide App   Dec. 2023
Unity / Mobile

- Utilized the **Vuforia** Engine SDK for rapid prototyping and iteration within an **agile** development framework.
- Compiled and debugged for prototype, processed raw data, and increased real-time AR **image recognition** accuracy by 30%.

EcoGuardians – An Educational Game for Children   Sept. 2023
Unity / PC

- A walking simulator developed with Unity3D, integrating environmental **sounds**, scene **lighting**, and **UI** system.
- Deployed **non-linear animations** using **DoTween**. Collaborated with 3D artists to optimize **rendering pipeline**.

Cubus – Spacial Puzzle Game Prototype   Mar. 2023
Unity / Oculus

- Deployed **spacial UI** and interactive components, supports both gesture and controller interaction.
- Assisted in **level design**, and completed the development and deployment of **6+ levels** within one week.

Hands Force Feedback Human-Computer Interaction System   July 2022
Graduation Project / Research

- Developed a Human-Computer Interaction (HCI) system based on **YOLO-v5** using **Python**, analyzing and adjusting model parameters to optimize visual recognition accuracy, resulting in a 15% improvement.
- Reproduced haptic feedback hardware for **Meta Quest** using the OpenGlove open-source project and **ESP32 Microcontroller**, providing full immersive support for the game Half-Life: Alyx.
- Authored a comprehensive **thesis** detailing the development process, findings, and implications of the project.