

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

EXPERIENCE

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.

INDUSTRY PROJECTS

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.
- Optimize **Procedural Generation** and level design tools based on **State Machines** and Dependency Injection (**DI**) patterns, use Inversion of Control (**IoC**) to decouple components.
- Use **SORA** to parse room data and proficiently use the functions it provides. **Fix bugs** that were not discovered.
- Collaborate with internal engine dev team through **Slack**, develop new features for library, and iterated over 7+ mechanisms.

Unity Developer (*Academic-Industry Partnership*)

Jan. 2024 – Apr. 2024

CDM | Vancouver Community College

Vancouver

- Develop a **VR** training simulator and responsible for the **overall** development architecture of the project.
- 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.

PERSONAL PROJECTS

Floral Art App for VisionOS

Feb.2024

IOS / Swift

- Established the **MVVM** architecture for the project using **SwiftUI** and **RealityKit**, ensuring a robust and scalable codebase.
- Collaborate with the team using **Jira** and **Figma**, enhancing the **UX**, resulting in a visually appealing and intuitive application.

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%.

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.

EDUCATION

Centre for Digital Media

Sept.2022 – Dec.2024

Master of 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