

# Shawn Gao

(236)982-1081 | [shawngaosde@outlook.com](mailto:shawngaosde@outlook.com) | [LinkedIn](#) | [Portfolio](#)

## SKILLS

---

- **Languages:** C#, Lua, Python, C++, Swift, HTML, CSS, JavaScript, SQL
- **Technologies/Tools:** Unity (URP, HDRP, XR Toolkit), Git, GitHub, Plastic SCM, VS Code
- **Design & Collaboration:** Figma, Jira, Trello, Slack, Notion, Miro
- **Methodologies:** Agile, Scrum, Kanban, CI/CD, Test-Driven Development, Rapid Prototyping, Modular Design

## EDUCATION

---

**Simon Fraser University** Sept.2023 – Jun.2025  
*Centre for Digital Media | Master of Digital Media*

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

## INDUSTRY EXPERIENCE

---

**Unity Developer (Internship)** Sept. 2024–Jan. 2025  
*CDM | Vancouver Community College* *Vancouver*

- Designed the architecture for a VR **training simulator** game prototype, enabling modular development and high reusability.
- Collaborated with UX designers to translate maintenance manuals into intuitive key mappings and spatial interaction flows.
- Refactored system structure using the **Observer Pattern** to decouple modules, reduce potential bugs, and improve scalability.
- Managed **Git** branching strategy and implemented **CI** workflows to streamline feature development and team collaboration.

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

- Developed a mixed reality (MR) **game** using **Unity**, focusing on performance optimization and platform compatibility.
- Developed and refined over 10 gameplay mechanics alongside a modular obstacle generation system based on the **factory pattern**, enabling procedural roguelike levels and boosting both player engagement and testing efficiency.
- Supported the refactoring of the project's **dependency injection(DI)** system, migrating to VContainer and boosting system stability and runtime performance by 50%.
- Collaborated with the internal engine tooling team to report bugs and contributed to the creation of **technical documentation**.

**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

*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

*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.

### Floral Art Simulator for VisionOS

*Swift / IOS*

- 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.

### Hands Force Feedback Human-Computer Interaction System

*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.