

DIANA DOU

Game Developer & XR Engineer

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TECHNICAL SKILLS

Languages: C#, C++, GLSL, JavaScript/TypeScript, Python, SQL

Engines & Frameworks: Unity (URP/HDRP), Unreal Engine (Blueprints), Photon Fusion 2, OpenGL, React

Systems & Graphics: Entity-Component-System, finite state machines, real-time network sync, shader authoring (Shader Graph, GLSL), gaze/hands-free input

Practices & Tools: Agile/Kanban, Jira, Git, GitHub Issues & Milestones, code review, Blender-to-Unity pipeline, Aseprite, Figma

PROFESSIONAL EXPERIENCE

UBC Faculty of Medicine – EdTech

Sep 2022 - Apr 2023

VR Developer

Vancouver, BC

- Built and deployed C#/Unity VR application features for **800+ medical students** based on clinician requirements, translating clinical procedures into interactive simulation scenarios.
- Architected the 3D environment and end-to-end **50GB+ asset pipeline** (modeling, texturing, Unity integration), owning the visual world from concept to completion.
- Authored custom **360VR documentation across 8 scenes** via reflection-probe baking, streamlining technical onboarding for future developers.

SFU Centre for Digital Media (CDM)

Sep 2025 - Present

Information Resources Assistant

Vancouver, BC

- Build and maintain high-traffic WordPress pages supporting **4,000+ monthly users**, writing custom TypeScript/HTML/CSS.
- Reduced page load **82% (1.92s to 0.37s)** via lazy loading, reaching a **92% PageSpeed Insights SEO score** across desktop and mobile.

TECHNICAL PROJECTS

BraveVR: Where the Wind Leads | *Lead Developer, Unity / C#*

Jan 2026 - Apr 2026

- Architected an **IGazeTarget interface** driving **9 interactive object types** through one contract, decoupling the gaze controller from concrete implementations.
- Programmed custom C# respiratory and head-gaze input, driven by a **12-frame rolling loudness window**, validated across **85 playtests** with a 5-bank ScriptableObject audio system.
- Authored **5 custom Unity Shader Graph shaders** (toon, stylized glow, wind, layered water) for a hands-free pediatric VR experience.

Cross-Platform Co-op Game | *Tech Lead, Unity 6 / Photon Fusion 2*

May 2026 - Present

- Implemented real-time network state sync across 2 client platforms (Android / Meta Quest) with Photon Fusion 2, holding game state consistent under **~100ms** in live 2-player co-op.
- Built network logic designed to support up to **20 concurrent users across 10 simultaneous sessions**, keeping synchronization stable under multi-session load.
- Led a **6-person Agile team** (Jira, GitHub Issues, peer review), delivering touch input and in-game UI validated through **76 playtests**.

GunCat: Pixel Arcade Shooting Game | *Gameplay & Engine Programmer, C++ / OpenGL*

Sep 2024 - Apr 2025

- Architected a custom **Entity-Component-System engine** with a central registry managing **44 component types** across a **12-module engine**, decoupling data from behavior.
- Built the C++/OpenGL rendering pipeline (**60 FPS**, custom vertex/fragment shaders), personally owning rendering, animation, HUD, and menu subsystems.
- Engineered a data-driven animation state machine dispatching **18 base animations and 14 distinct states**, parameterizing 5 player skins over one shared 5-state locomotion FSM.

EDUCATION

Simon Fraser University

Sep 2025 - Present

Master of Digital Media

Burnaby, BC

University of British Columbia

Sep 2019 - Apr 2025

Bachelor of Science, Major in Computer Science

Vancouver, BC

- **Relevant Courses:** Video Game Programming (A), Computer Graphics (A), Computer Vision (A-), Computer Animation (A-), Software Construction (A), Relational Databases (A+)