

Sakura Shih

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Game Development Software Engineer

Entry-level Game Development Software Engineer that demonstrates a commitment to leadership and collaborative work environments, looking to join a world-class studio and work on innovative game development technology. Leverages skills in low-level programming, interdisciplinary collaborative experience, and an initiative to learn.

Skills

Languages- C/C++, C# (familiar), Arm Assembly, HTML/CSS (familiar)

Technical Skills- Data Structures, Algorithms, Low-Level Programming, Multithreading, Object-Oriented Programming, Data-Oriented Design, Pairs Programming, Code Reviews, Documentation, Linear Algebra, Debugging, Optimization, Unit Testing (GoogleTest)

Soft Skills- Interdisciplinary Collaboration, Analytical, Versatile

Tools – GitHub, Git, CMake, Visual Studio, Visual Studio Code, WSL 2, Valgrind

Frameworks – Unity, OpenGL, Vulkan, Entity-Component, ECS, ImGui, OpenGL

Design – Technical Design, UX/UI Design, Systems Design, Automation & Telemetry Support and Analysis

Project Management- GitHub Projects, Agile Development, Trello

Projects

Technical Lead, Engine Programmer, Systems Programmer

April 2024 – Present

Friday Engine (3D Custom Game Engine) (C++, Vulkan, ECS, Multithreaded)

- Technical Lead for a team of 3 on a custom game engine project.
- Implemented Multithreaded Job System ECS framework for concurrent code execution
- Implemented Event System, 3D Graphics, Serialization Techniques, and core engine frameworks
- Incorporated Vulkan Graphics API for cross platform support
- Implemented GitHub Source Control, and automated CMake build pipelines to speed build process by 80%
- Implemented data structures, memory managers, and low-level solutions to tackle unique technical challenges
- Built testing solutions and unit tests (GoogleTest) that sped up development processes by 40%
- Documented code and architecture with Doxygen to speed up developer onboarding process by 90%
- Implemented and iterated on designer tools to speed up design pipelines by 3x
- Implemented Agile workflows with GitHub Projects to achieve sprint durations of 2 weeks

Engine Programmer, Systems Programmer, Producer

August 2023 – August 2024

HexenHold (2D Custom Game Engine) (C++, OpenGL, ECS)

- Technical Producer for a team of 8 and coordinated sprints and agile workflow with the design producer
- Implemented Game Engine framework, Event System, and Scene Serialization
- Provided developer support for Designers, implementing UX/UI, gameplay, and systems changes for designers
- Optimized physics algorithm performance through linear algebra techniques (20 fps -> 600 fps)
- Implemented and iterated on designer tools to speed up design pipelines by 3x
- Polished and debugged game for professional release on Steam

Experience

Teaching Assistant

January 2024 - Present

DigiPen Institute of Technology (CS 170)

- Coordinated with professor to execute a comprehensive curriculum on C++, OOP principles, and Data Structures
- Supported classes of hundreds of students with debugging skills, and one-on-one coding sessions.
- Reviewed student code and provided feedback on algorithm implementations and code style, speeding up feedback process by 20%
- Mentored students directly on abstract high-level and low-level programming concepts

Education

DigiPen Institute of Technology

Expected Graduation Date: December 2025

B.S Computer Science and Game Design

- Honors: Dean's List (Fall 2022, Spring 2024)
- President of PRISM (People Respecting Identities and Sexual Minorities), Student Ambassador