Chai Lin (Gameplay Engineer, Technical Designer) { chai-lin.com linkedin.com/in/chai-lin 330-354-2953

// Skills

Languages: C++, C#, C, Blueprints
Engines: Unity, Unreal Engine 5
Programming: 2D, 3D, Networking, Multiplayer, AI, Designer Tools, Alternate Controls
Version Control: Github, Perforce
Project Management: Jira, Trello, Agile, Scrum
Design Tools: Aseprite, Photoshop, Figma, Figjam, Miro, Sheets

// Projects

Echo Rift (September 2024 - May 2025) {
/// <summary> C#, Unity, 3D, Team, AI, Designer Tools

- Boss Design & Implementation — Designed and implemented the second boss (Snake), including concepting, attack design, technical systems, and gameplay iteration.
- Systems Engineering — Refactored and maintained the core combat framework, improving efficiency, readability, and long-term flexibility for designers and engineers.
- Designer Tools — Built custom Unity editor tools and Scriptable Object workflows (patterns, pools, sequences) to streamline iteration and empower non-programmers.
- Gameplay Features — Developed complex boss mechanics (laser system, delivery actions, walls, wind, phase transitions) and integrated tutorial + environmental interactions.
- Optimization — Diagnosed and resolved performance issues on Nintendo Switch, including garbage collection and memory management fixes.
- UI & UX — Improved readability and player feedback through indicators, highlights, beat-synced visuals, and accessibility-focused polish.
- Collaboration — Engaged in extensive peer programming, bug fixing, and cross-discipline teamwork with designers, artists, and tech artists.
- Release & Patching — Responded to Early Access feedback with gameplay balance changes, bug fixes, and quality-of-life improvements post-launch.

}
C++ Game Engine (September 2024 - November 2024) {
/// <summary> C++, OpenGL, Direct3D, Lua, 2D, 3D, Networking

- Animation System — Built a sprite sheet animation framework in C++/OpenGL supporting frame slicing, UV-based animation, runtime color changes, one-shot animations, and sprite flipping.
- Graphics Abstractions — Implemented cross-platform interfaces for meshes, effects, buffers, and shaders, allowing the same engine code to run on both Direct3D (x64) and OpenGL (x86).
- Performance Optimization — Reduced runtime overhead by moving frame logic into shaders, minimizing texture rebinds, and converting Lua mesh files into binary formats (46% smaller).
- Content Pipeline — Extended the engine with a Maya mesh exporter, Lua data loader, and asset builder to streamline importing and testing content.
- Systems Integration — Adapted and debugged networking, collision, and input systems from classmates' engines, ensuring compatibility and stable multiplayer functionality.
- Multiplayer Gameplay — Delivered a 2D fencing game supporting up to 6 players, synchronizing animations, collisions, and networking through my custom engine framework.
- Memory & Architecture — Applied reference counting and data type optimizations to ensure safe memory handling, maintain scalability, and improve engine efficiency.

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// Work Experience

Research Assistant UofU (February 2025 - August 2025) {

- Guest Lecture — Delivered a 2-hour guest lecture on Arduino–Unity integration; provided ongoing project support for six students in Game Ecologies.
- Young Architects Project — an interactive exhibit at the Carnegie Mellon Art Museum:
  - Built a Unity client-server system handling webcam input, Arduino button presses, projection mapping, and audio synchronization.
  - Implemented save/load functionality for on-site adjustments, folder structures for content moderation, and user-generated content management.

}

Teaching Assistant UofU (May 2024 - May 2025) {

- Rapid Prototyping (Graduate) — Hosted workshops, provided technical support and peer programming, and gave structured feedback on student development diaries.
- Alternate Controllers (Graduate) — Supported students with both software and hardware challenges; assisted in prototyping and debugging custom controller projects.
- Traditional Game Design (Undergraduate) — Delivered guest lectures on version control and game engine fundamentals; graded assignments and projects; mentored teams on design and implementation.

}

Games Grad Lab Manager UofU (August 2024 - May 2025) {

- Technical Support — Provided hardware and software support for graduate students; tracked and resolved IT support tickets.
- IT Liaison — Acted as the local source of communication between students and the IT department, ensuring timely issue resolution.

}

// Education

University of Utah (Master's of Entertainment Arts Engineering, August 2023 - May 2025) {

Relevant Coursework: Game Engine Engineering, AI for Games, Rapid Prototyping, Systems Design Programming Patterns, Combat Design, Game Design

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Kent State University (Batchelor's of Computer Science, August 2018 - May 2022) {

Relevant Coursework: AI Algorithms, Object Oriented Programming, Procedural Programming, Computer Graphics, Computer Network Security, Game Engine Concepts

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