WEIZHENG LIANG

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EDUCATION

University of Southern California | Los Angeles, CA

Master of Science in Computer Science (Game Development) | August 2025 – May 2027

Rutgers University - New Brunswick | New Brunswick, NJ

Bachelor of Arts in Computer Science | September 2019 – January 2024

SKILLS

Programming Languages: C++, C#, Lua, Python, Java, JavaScript

Game Engines: Unity Engine, Unreal Engine, Prime Engine, Godot Engine, Cocos2d

Graphics & Math: 3D Math, Linear Algebra, Shader Programming, Computer Graphics

Architecture & Design Patterns: ECS, MVP, State Pattern, Publish-Subscribe, Facade Pattern, OOP

Tools & DevOps: Custom Unity Editor Tools, Lua Integration, Git, CI/CD, Unit Testing

Gameplay Systems: Engine Architecture, Physics Simulation, UI Systems, Network Programming

EXPERIENCE

Shanghai Bamboo Internet & Information Service Co., Ltd | Shanghai, China

Software Engineer Intern | August 2023 – February 2024

- Boosted **player engagement by 20%** developing **player-facing features** and **progression algorithms** with **Unity** and **C#** reliably.
- Improved **efficiency by 50%** implementing **agile practices** enabling **parallel designer-engineer workflows** eliminating merge conflicts.
- Decreased **feature iteration time by 25%** managing **design-engineering communication** prioritizing **data-driven gameplay prototypes** achieving rapid iteration.

Bilin Planet (Shenzhen) Technology Co., Ltd | Shenzhen, China

Software Engineer Intern | February 2023 – April 2023

- Increased **user retention by 20%** architecting **core SDKs** and **APIs** for **design** and **engineering teams** reliably.
- Ensured **100% build stability** managing **full SDLC** prioritizing **bug fixes** coordinating **cross-disciplinary debugging sessions**.

PROJECTS

Prime Engine - Engine Extension | **C++, ECS Architecture, Multithreading, 3D Math, Linear Algebra**

Designer, Programmer | September 2025 – Present

- Boosted **rendering performance by 7 FPS** applying **3D math** computing **CPU mesh orientations** efficiently systematically.
- Engineered **multithreaded physics simulation** isolating from **main game loop** eliminating **frame drops** during **physics-heavy calculations**.
- Implemented **modular physics component system** in **C++** using **ECS architecture** improving **code maintainability** systematically.

All Good Things - MFA Thesis | **C#, Unity, TouchDesigner, OSC Protocol, MVP Pattern, State Pattern, Publish-Subscribe**

Programmer | September 2025 – Present

- Ensured **system stability** engineering **resilient low-latency OSC pipeline** between **Unity** and **TouchDesigner** using **Facade pattern** reliably.
- Improved **code maintainability** architecting **codebase** with **MVP pattern** isolating **game logic** from **MonoBehaviour classes** systematically.
- Designed **scalable game logic** using **State** and **Publish-Subscribe patterns** decoupling **UI**, **audio**, and **scoring systems** reliably.

Knock Knock Alien Is Here | **C#, Unity, Spatial Partitioning, Physics Simulation, Agile Methodology**

Lead Programmer | November 2024 – December 2024

- Reduced **CPU usage by 35%** maintaining **60 FPS** designing **grid-based spatial partitioning algorithm** for complex logic.
- Delivered **demo** within **25-day sprint** leading **programming team** with **agile methodologies** engineering **physics-driven mechanics**.