Jiayi Pan

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Summary

Gameplay and systems-focused engineer with experience in game prototyping, tooling, and iterative system design. Strong background in Unity-based gameplay systems, cross-disciplinary collaboration, and rapid iteration informed by playtesting. Interested in building tools and core gameplay systems that enable emergent behavior, large-scale worlds, and player-driven RPG experiences.

Education

University of Southern California **Aug 2025 – Present**
B.S. in Computer Science Games *GPA: 4.0/4.0*

Sichuan University **Sep 2023 – Jun 2025**
B.S. in Computer Science *GPA: 3.92/4.0*

Research Experience

Blood Biomarker–Based ML Model for Cognitive Decline **2024 – 2025**
Research Contributor (IEEE DLCV 2025)

- Performed data cleaning, preprocessing, and feature preparation on structured biomedical datasets using Python.
- Implemented and evaluated multiple deep learning models to predict disease progression, achieving **90%+ accuracy**.
- Conducted comparative analysis across models and interpreted results to inform early-stage clinical decision making.
- Experience translating ambiguous research goals into testable experimental pipelines.

Gameplay Systems & Prototyping

Nudge (USC Games MFA Capstone) **Ongoing**
Game Engineer / Research Prototyper

- Designed and implemented modular gameplay and interaction systems in Unity to support rapid iteration and experimentation.
- Built reusable tools and prefabs (colliders, state logic, interaction components) to accelerate level and gameplay prototyping.
- Collaborated closely with designers and artists to translate high-level gameplay ideas into playable systems.
- Iterated on gameplay features based on playtesting feedback, balancing clarity, pacing, and player agency.

LampLighter (GameJam) **Oct 2024**
Gameplay & UI Prototyper

- Rapidly prototyped gameplay flow, UI systems, and level layouts under tight GameJam deadlines.
- Focused on player onboarding and feedback clarity through fast iteration and playtesting.

Game System Design

CTIN-488 Tabletop Game Systems **2025**
Game Designer / Systems Researcher

- Designed and iterated on tabletop game systems emphasizing emergent behavior, rule-based simulation, and player-driven narratives.
- **SushiRat Revolution**: Designed spatial movement and resource competition systems modeling risk–reward tradeoffs.
- **Monstory**: Co-designed a collaborative storytelling system using hidden prompts and constrained language mechanics.
- **Untitled Alchemist Simulator**: Designed an economy-driven system incorporating auctions, action points, and multiple win conditions.
- Used structured playtesting and qualitative feedback analysis to refine balance, pacing, and player incentives.

Technical Skills

- Programming: Python, C#, C++, Java
- Machine Learning: data preprocessing, model training, evaluation, experimentation
- Game Development: Unity (gameplay systems, tools, rapid prototyping)
- Tools: Git, Unity Editor