

# YIYANG LU

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## TECHNICAL SKILLS:

- **Tools:** Unity, Unreal, Perforce, Github, Jira
  - **Programming Languages:** C++, C#, Blueprint, Python, JavaScript
  - **Language:** Chinese (native), English (fluent)
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## PROFESSIONAL PROJECTS:

### Firesafe Friend – Solo Programmer

Sep. 2024 - Present

- Designed and implemented core gameplay systems in **Unity** using **C#** for a **3D** fire simulation strategy game, integrating **custom physics** and **AI behavior** models.
- Engineered a **wildfire spreading system** using particle effects, improving **VFX** rendering efficiency by 40%.
- Built a modular **multiplayer inventory** and UI system using the **Model-View-Controller** pattern, enabling seamless item management and scalable UX design.

### Firewise Citizen – Solo Programmer

Mar. 2024 - Present

- Designed and developed a simulation game from concept to completion, integrating **AI behavior trees**, **branching dialogue systems**, and grid-based **traffic simulation** in **Unity**
- Created a **dual-direction** grid traffic simulation using **A\*** pathfinding and **vehicle AI**, enabling real-time rerouting and optimized collision handling.
- Developed a custom Unity-based **level editor** tool, reducing level creation time by 30% and enhancing designer workflow efficiency.

### Gulltastrophe – Gameplay Programmer

Aug. 2024 - Present

- Collaborated in a 6-person **Agile** team to develop a 3D action-adventure game in **Unreal Engine 5**, contributing gameplay programming and level design.
- Built the **Cutscene Manager** using Unreal Blueprint, enabling the smooth transition between **camera blend** and **level sequence** playing
- Implemented a dynamic destructible environment system using **Unreal Blueprint**, enhancing gameplay interaction and reducing asset duplication by 20%.

### Dracomaton – Gameplay & UI Programmer

Jan. 2023 - June. 2023

- Collaborated on a **2D roguelike** game in **Unity**, achieving over 1,000 sales on Steam
  - Developed resource management and procedural item spawning systems using scriptable objects and event-driven architecture.
  - Integrated player **weapon equipping** via dynamic UI linking with in-game inventory and **UI animation**, improving user flow.
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## PROFESSIONAL EXPERIENCE:

### Social Emotional Technology Lab, UCSC

Mar. 2024 - Present

*Research Assistant, Lead Programmer*

- Developed 2+ interactive **educational games** on wildfire preparedness using **Unity** and **C#**, incorporating modular architecture for cross-platform deployment.
  - Designed **modular** game systems ensuring platform stability and adaptability
  - Built flexible systems using **scriptable objects** and **configuration** files to adapt rapidly to evolving research requirements.
  - Delivered games across Windows and WebGL, implementing 100+ bug fixes and optimizing platform-specific performance metrics by 25%.
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## EDUCATION:

### University of California, Santa Cruz – Silicon Valley Campus

Mar. 2025

- ❖ Master of Science: Games & Playable Media

### University of California, Santa Cruz

2019 - 2023

- ❖ Bachelor of Science: Computer Science: Game Design