Chu Li

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Education Background

Carnegie Mellon University **Master of Entertainment Technology** 9/2023 – 5/2025
Core Curriculum: Game & Experience Development, Computer Graphics, Generative AI Art Pittsburgh, PA

New York University **BFA in Interactive Media Arts with a Second Major in Computer Science** 9/2019 – 5/2023
Core Curriculum: Data Structure & Algorithms, Media Art, Interaction Programming, Operating Systems, Computer Graphics, Web Application Development New York, NY

Platforms: Unity, Unreal Engine 5, Oculus Quest 2 & 3, Game Engine & Sensor Integration
Programming Languages: C#, Java, Blueprint, C++, HLSL, JavaScript, Python
Version Control: Github, Perforce
Creative Tools: Adobe Premiere Pro, Houdini, Maya, Photoshop, Figma, Runway, Suno, DALL·E

Professional Experience

Unreal Engine Audio Analysis Plugin **Commercial Collaboration: Beijing Immersive Space Vision Co. | 05/2024 – Present**
Unreal, Github | Game Engine Plugin Development & Project Management

- Founded and led an independent development team, managing contract negotiations, project planning, technical execution, and direct client collaboration. Managed team workflow using ClickUp, structuring task assignments and documentation.
- Designed and implemented custom real-time audio analysis algorithms, overcoming a lack of existing resources in Unreal Engine. Researched dominant frequency detection and spectrum analysis and developed an extended spectral analysis system, allowing custom slot selection for frequency bands, a feature Unreal Engine lacks by default.
- Leveraged Unreal Engine Blueprints extensively, utilizing custom libraries, function calls, and event-driven communication between Blueprint classes. Designed custom Blueprint events to enable modular, flexible data streaming for real-time scene effects.
- Successfully delivered multiple iterations; each integration is projected to generate $4K, demonstrating strong commercial viability and innovation.

Project Experience

VR Ecological Exploration Game **Academic Collaboration: CMU – Center for Transformational Play | 01/2025 – Present**
Unity, Quest 3, Perforce | Game Development & Interaction Design

- Sole programmer, developing core gameplay and NPC systems, including VR locomotion, object interactions, physics-based mechanics, a modular task system, and NPCs with state-driven dialogue and NavMesh navigation for contextual responses and pathfinding.
- Designed and managed a large-scale codebase, integrating structured documentation, modular design. Used AI-assisted prototyping for boilerplate code generation and debugging, and systematic task tracking to ensure clarity and scalability.
- Designed and developed a VR experience where players, shrunk to 20 cm, explore their backyard to solve environmental challenges, emphasizing unnoticed details and the impact of small individual actions on environmental change.
- Led playtesting, gameplay, art, and design integration, tracking assets, refining priorities, optimizing workflows, and iterating on feedback.

Experimental Music Game **Subject Matter Expert: Epic | 09/2024 – 12/2024**
Unreal Engine, Verse, Niagara | Visual Effects & Technical Art

- Designed and implemented music-driven visual effects and materials, creating real-time environmental responses, stage lighting, and combat visual cues.
- Developed and refined Niagara particle systems for boss attacks and music-synchronized particle interactions to enhance emotional impact in the game.
- Integrated Level Sequencer to create in-game cinematics, directing dramatic boss introductions, transitions, and endings.
- Collaborated closely with artists and designers, translating artistic vision into real-time visual effects while ensuring performance optimization. Exhibited at the ETC Festival, engaging 100+ industry professionals and players for feedback, driving the final optimizations.

Music-Driven Scenic Visualization **Client: Deeplocal | 01/2024 – 05/2024**
Unity, Spotify Web API | Experiential Engineering & Creative Design

- Sole developer, collaborating with five designers to execute the project from concept to completion. Developed a passive music visualization experience where procedurally generated landscapes respond to audio, mimicking the sensation of watching scenery pass by through a car window.
- Explored multiple prototypes and finalized a Unity 2D approach with Spotify Web API integration, incorporating dynamic weather effects and animation state transitions, along with post-processing effects and lighting enhancements for improved visuals.
- Managed art assets through a layered system, optimizing scene depth and visual storytelling.
- User testing with 50+ K-12 students demonstrated strong emotional engagement, reinforcing the project's impact。 It achieved 100% client satisfaction and received high praise.

Awards & Recognitions

- **Finalist, MIT AI Film Hack 2025** | *Dance in the Ashes*, a fully AI-generated short film using DALL·E, Suno, and Runway
- **Accepted Presenter, Cumulus Detroit 2022 – Design for Adaptation Conference** | Presented *Rising*, a 9-month NYU research project on CO_2 emissions, presented as a responsive installation built with MCU sensors and Unity, exhibited at NYU Bobst Library.
- **1st Prize, NYU Hackathon 2022 (Health & Well-Being Track)** | Designed an interactive app for people with food allergies.