

RYAN GAO

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Experiences

Camel Games

Jun 2025 – Aug 2025

AI Tools Intern

- Developed AI Agents in the DIFY platform and developed AI image generation and enhancement pipelines in ComfyUI to aid the art team achieve higher efficiency. Developed multiple AI tools to aid in restyling massive amounts of assets for artists.
- Adapted company AI image tools database into knowledgebase to be used by the AI system for better search queries.
- Created tools to incorporate the newest LLM models such as GPT-5 into ComfyUI to enhance input prompts to better suit image generation AIs such as Flux Kontext, which greatly improved the quality of the output image to artists' intent and lowered skill entry.

Projects

Honkai: Star Rail Turn-Based Combat System Technical Analysis

Sep 2025 – current

- Conducted an in-depth design and technical analysis of Honkai: Star Rail's turn-based combat system, interpreting and reconstructing the underlying mechanics and system logic.
- Built two main state machines, a Turn Machine and a Resource Manager, to manage unit actions, timing, and ability triggers.
- Developed a modular unit framework with clear inheritance for Friendly and Enemy types, making new unit creation simple and consistent. Used C# Actions to broadcast and connect events between units, reducing code dependencies and improving flexibility.
- Authored technical documents detailing the design breakdown, architecture decisions, and the thought process behind replicating and adapting the combat system.

Cat Co.

Jul 2025 – current

- Designed and developed narrative loader for rapid narrative iteration and testing for narrative designer who know no code.
- Created Unity tool to auto-generate NPC dialogue trees. Designed and developed NPC AI behaviors.
- Developed easy asset loader for artists to easily iterate and implement image dialogue sequences.
- Designed asset requirement spreadsheets and project structure documents to ensure art, design, and tech team members' communication goes smoothly.

Anime Chess

Apr 2024 - Jun 2024

- Developed the foundations of the turn-based battle system and the hexagonal grid movement systems.
- Designed and developed complex state-machines to implement action sequences of the pieces, as well as to display different animations, sound effects, and behaviors.
- Created JSON and asset importer to map creative assets to placeholder assets in the engine, greatly increasing teamwork efficiency between team members of different fields.
- Built a narrative loader to automatically import text files into the game into its corresponding dialogue scenes.

Global Game Jam 2024

Jan 2024

- Designed and developed a video-centric game based on the theme "Make me laugh".
- Designed and implemented autoloading systems to implement parallel production for video artist to quickly test and view result while still allowing developers to work with ease.
- Designed and maintained project structure to easily assign and pass features to each member without any hassle.

Education

New York University - BFA

Sep. 2023 – May 2027

Game Design - Tisch School of the Arts - NYU Game Center

New York, New York

Computer Science - College of Arts and Sciences

GPA: 3.82/4.0

Skills

Programming: C#, Java, JavaScript, Python, GML, C/C++, HTML, GDScript, Git/Github

Game Engines: Unity, Gamemaker, Godot

Programs: Photoshop, Illustrator, Aesprite, Procreate, InDesign, Office Suite

Languages: Fluent English, Fluent Chinese (Mandarin), Japanese (N3)