Benjamin Yang

EDUCATION

University of Utah, Salt Lake City, United States 09/2025-09/2027（Estimate）

- Master of Entertainment Arts & Engineering

Simon Fraser University, Vancouver, Canada 09/2022-12/2025

- Bachelor of Science in Interactive Arts & Technology
- Minor in Computing Science

ACADEMIC EXPERIENCE

The Perfect Crime, Team Project, Unreal Puzzle Game 11/2025-12/2025

Programmer

Overview:

A top-down stealth and puzzle prototype in UE5 built around time loops and action-point economy as the core narrative mechanic.

Responsibilities:

- Implemented a fully hand-written C++ Action-Point / Time-Loop subsystem, abstracting a command buffer and synchronized checkpoints. Exposed subsystem APIs to BP_ActionPointManager, BP_TopDownGameModeNew, and UIs such as WBP_ActionPoints and WBP_PocketwatchUI, ensuring strict consistency among in-loop characters, clocks, and pocket-watch systems while preventing floating-point drift.
- Designed a "Puzzle Pipeline" architecture using a C++-side PuzzleSequenceController interface and a data-driven state machine. Enabled ChemistryPuzzleLineBlueprints and GunPuzzleLineBlueprints interactions (acid cleaning, gun assembly, etc.) and decoupled each puzzle step from UI elements via an event bus.
- Built a unified interaction/forensics framework: encapsulated pickup, inspection, and evidence-reasoning logic as C++ components, then extended via Blueprint. The same interaction code supports blood cleaning, letter forging, item storage, and narrative branching while reusing hint and fail/win UIs.

One Dance After Another, Team Project, Unity Game Jam 10/2025

Programmer & Designer

Overview:

Built a complete "data-driven timeline + real-time cutscene" pipeline within 72 hours. Connected CSV/custom editor tooling to runtime playback. Used MVC and a grid-combat kernel to unify multi-NPC choreography, boss cutscenes, and player interaction under one scheduling framework.

Responsibilities:

- Constructed an MVC architecture: TimelineModel + TimelineController + TimelineView, where the controller centrally initializes GridMap, loads CSV/embedded data, and drives UI, hints, and boss behavior. Implemented a hub-style state machine enabling single-step operations to trigger multi-system reactions.
- Designed a designer-friendly EditorController workflow: automatic Pawn scanning, step migration, manual save/CSV write-back, and data-consistency guarantees under variable step lengths and multi-person collaboration.

- Built a GridMap + Pawn component system, encapsulating tile occupancy, movement, initial-position rewind, and priority selection. Integrated with a unified DamageManager handling melee checks, dodge windows, and death callbacks for both player and enemies.
- Implemented GameManager timeline driver and sub-systems for BossEnemy and TimelineHintUI, supporting configurable pacing, win/lose states, and hint fade timing—acting as glue code for both "play" and "cutscene" modes.

Launch Meow, Team Project, Unreal Game Jam 10/2025

Programmer & Designer

Overview:

Launch Meow is a 48-hour Game Jam project. I built a cat-themed single-level experience based on the UE top-down template.

Responsibilities:

- System Architecture: Led the modular Blueprint structure centered on GameManager. Split cat behavior (CatSystem), interaction tools (Tools), and environmental devices into event-driven subsystems. Ensured designers and artists could expand features via interfaces and data assets without touching core logic.
- Data-Driven Narrative: Built a full dialogue pipeline (DialogueSystem + UISystem + DataTable ST_Dialogue + WBP_Dialogue). Converted NPC lines, branches, and performance parameters into table assets (e.g., Dialogue/Alice.uasset), enabling "enter data = immediately works" iteration. Unified UI logic for portraits, layout, and input-lock strategies.
- Core Flow Orchestration: Configured EditorStartupMap, GameDefaultMap, and a custom BP_TopDownGameMode in DefaultEngine.ini. Integrated the cat-themed level, interaction loop, and navigation volume into a coherent Game Jam foundation.

Parasomnia, Team Project, Unreal VR 09/2025 – 10/2025

Programmer & Technical Artist

Overview:

A psychological VR experience developed with Unreal Engine, designed for Meta VR devices. The game simulates the state of sleep paralysis by linking real-time player breathing and head movement to visual and auditory distortions, immersing players in a surreal, anxiety-inducing dream world.

Responsibility:

- Led the development of the Breathing Detection System, converting controller motion data into filtered respiratory signals to drive gameplay and environment states.
- Architected a modular subsystem framework (Heart Rate, Audio, Animation, Post-Processing) enabling real-time physiological feedback loops.
- Integrated Blueprint and C++ hybrid programming, managing global flow via a Game Manager and event dispatcher for scalability.
- Designed real-time post-processing controls (blur, color shift, noise, camera shake) driven by dynamic physiological data, enhancing immersion and emotional feedback.
- Established extensible interfaces for future sensor integration (heart rate, breathing monitors) to enable personalized physiological gameplay calibration.

Glowing, Team Project, Unity VR 09/2024 – 11/2024

Programmer & Technical Artist

Overview:
A therapeutic VR experience blending traditional Chinese aesthetics with interactive storytelling. Players collect herbs, craft potions, and heal a glowing mythical creature through immersive VR mechanics.
Responsibility:

- Led the development of core VR interaction systems using Unity’s XR Interaction Toolkit, integrating multi-step tasks such as herb collection and potion crafting.
- Built a custom Shader Graph-based glowing creature material featuring Fresnel highlights, gradient transparency, and dynamic color mapping to enhance emotional feedback.
- Created GPU-instanced vegetation shaders with wind simulation (Simple Noise + Vertex Offset) to achieve real-time environmental animation and performance stability.
- Implemented modular event and state management systems, enabling synchronized narrative triggers and responsive feedback loops.
- Optimized overall rendering pipeline for VR, maintaining high frame-rate performance across complex lighting scenes.

Tai Chi, Personal Project, Unity 03/2024 – 06/2024
Programmer & Technical Designer
Overview:
A 2.5D turn-based adventure game inspired by Tai Chi and Yin-Yang philosophy, featuring a custom ink-wash shader built in Unity URP.
Responsibility:

- Developed a data-driven card logic system in C# for turn-based combat, supporting Yin/Yang attributes and combinational “Form” mechanics. Designed and modularized reusable battle and event systems (Observer Pattern + ScriptableObject) for scalability and maintainability.
- Created a custom ink-wash shader using URP Render Features, achieving 20%+ frame-time improvement through edge detection and ink diffusion optimizations.
- Combined 2D frame-by-frame animation with VFX for expressive combat actions while reducing asset cost.

MET, Personal Project, Web 01/2024 – 03/2024
Front-End Developer & Interaction Designer
Overview:
A narrative-driven web game built with HTML, CSS, and JavaScript, exploring life’s cyclical nature and fate through three intertwined storylines. Gameplay dynamically adapts to player choices and proficiency.
Responsibility:

- Implemented a modular HTML5 Canvas-based rendering and event system, improving reusability and runtime efficiency.
- Designed a JSON-driven narrative management framework supporting multi-branch storylines and adaptive difficulty.
- Built an ID-based object tagging and lifecycle system to handle entity erasure and memory-safe state tracking.
- Integrated asynchronous callbacks for scene progression, ensuring consistent event timing across narrative paths.
- Designed minimalist UI/UX animations via layered CSS transitions and color-coded character identifiers

to balance artistic clarity and performance.

INTERNSHIP EXPERIENCE

DECONSEIL, Paris, France 03/2025-06/2025

Full-Stack Web Developer Intern

Responsibility:

- Developed and maintained both frontend and backend components of the CRM system.
- Deployed and managed databases using Firebase and SQL to support data storage and retrieval.
- Created promotional videos and designed UI icons for the website interface, Q&A sections and support documentation.
- Optimized data flow across user interfaces and contributed to system architecture discussions.

DECONSEIL, Remote 03/2024-04/2024

CRM Systems Development Intern

Responsibility:

- Developed a Chrome extension that automated the grabbing of merchant information and recorded it into the Customer Relationship Management (CRM) system of the company.

The TextielLab, the Tilburg TextielMuseum of the Netherlands, Vancouver, Canada 01/2022-02/2022

Prototype Designer

Responsibility:

- Collaborated with the design team to create a user interface prototype for the “Long Live Fashion” exhibition ticketing website using Figma and Sketch.
- Developed the front-end interface of the website, using HTML, CSS, and JavaScript to ensure that the visual and functional aspects of the prototype were accurately translated into the production environment.

Sichuan Riyin Internet Technology Co., Ltd., Chengdu, China 09/2020-02/2021

Amazon Store Operations Specialist

Responsibility:

- Researched the competitive product market and analyzed the pricing strategy, user feedback, and product features of major competitors to provide data support for the company’s product positioning.
- Shot and processed product pictures, made high-quality display videos, and wrote the copy according to product features to enhance the online display effect of products.
- Managed the online store daily, responded to customer inquiries and complaints, recorded and analyzed daily sales data, and optimized store operations.
- Planned and implemented promotional activities to drive sales growth and collected user feedback for continuous improvement.

TECHNICAL SKILL

Language: Mandarin (native), English (fluent)

Programming: C#, C++, Java, JavaScript, Python, HTML, CSS, Processing

Software & Tools: Unity 3D, Unreal Engine, Rhino, Blender, Autodesk Maya, Adobe Photoshop, Adobe Illustrator, Adobe After Effects, Adobe Premiere, Figma, Reaper, Arduino