

Zhengxi (Jesson) Zhang

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EDUCATION

The University of Utah

Expected May 2026

Software Development / EAE B.S - MJ-SFDV (GPA: 3.501/4.0)

Relevant Coursework: Asset Pipeline, Trad Game Development, Alt Game Development, Machinima Development, Intro to Algs & DS, Discrete Structures, Models of Computation, Computer Org, Design Human Center Sys, Software Practice, Web software development, Mobile App Programming, Data Wrangling

WORK EXPERIENCE

Life Stages LLC Company

Software engineer

Aug 2024 – Oct 2024

- Developed a wellness-focused iOS mobile application using **Swift**, implementing **MVVM** architecture with Combine framework for reactive programming and state management, following **Agile** development practices.
- Integrated **Firebase** ecosystem (Authentication, Cloud Firestore, Storage) to implement secure multi-provider authentication (Email, Google OAuth, Apple Sign-In using CryptoKit) and real-time data synchronization across devices.
- Designed and built custom reusable UI components and ViewModifiers using **SwiftUI**, creating smooth animations and transitions with matchedGeometryEffect and NavigationStack for modern iOS navigation patterns.
- Developed a high-performance image caching system using **NSCache** and Combine, optimizing network image loading and memory management for improved app performance.
- Implemented user **onboarding flows**, profile management features, and personalized content recommendation system with real-time data updates using **Firebase snapshot listeners**.
- Implemented AI-powered mood detection features that can capture user expressions and analyze them using an AI agent to personalize user experiences with OPENAI API.

Dead by Daylight Discord (Chinese) Community, US

Jan 2023 – Now

Community Manager

- Managed a community of over 1,600 members, organizing events and weekly gaming activities.
- Utilized bots for community management, overseeing atmosphere and member engagement.
- Organized tournaments with the Chinese community with 300 online viewers.

ACADEMIC PROJECT

Project Emma (Unreal5, 3D, Detective, Horror) (Programmer, Designer)

- Designed and implemented a modular, interface-driven interaction system using **Blueprint Interfaces**, enabling designers to create customized interactive behaviors by extending a shared **Base Item class**, including meshes, interaction logic, and audio etc..
- Built a **stack-based, layered UI architecture** (Main / Gameplay / Menu / Modal layers) to manage UI state transitions cleanly, significantly reducing UI complexity and input conflicts.
- Optimized UI performance and memory safety by leveraging **Soft Object References** and **Blueprint Function Libraries**, effectively avoiding hard reference dependency chains.
- Developed a fully functional **inventory management system** with a Resident Evil–style 3D item inspection feature.
- Implemented a **context-based input handling system** using **Unreal's Enhanced Input framework**, organizing player and UI input through multiple **Input Mapping Contexts** to minimize input coupling and improve maintainability.
- Created **reusable UI components** and a subtitle system utilizing **Event Dispatchers** for event-driven communication, enabling decoupled messaging between gameplay systems and UI layers.

ExpressDeliveryBoy Game Project (Gamemaker2, Alternative, Typing) (Producer, Programmer, Designer, Art, Animator)

- Designed and developed a complete 2D educational typing game independently, featuring delivery-themed gameplay where players improve typing speed and vocabulary through interactive challenges.
- Implemented core mechanics including word input, timed delivery tasks, NPC interactions, and dynamic events (e.g., traffic hazards, chase sequences).
- Created custom pixel art assets, UI, and event-driven systems to deliver both engaging gameplay and educational value.
- Built and optimized game logic in **GML**, managing animations, scene transitions, and player progression.
- Established a detailed production plan, defined the game mechanics, and specified the game's scope in detail.

In the Wake of Betrayal (Unity, C#, 2D, Top-down ARPG) (Producer, Programmer, Designer, Animator)

- Implemented a modular enemy AI system using **finite state machines** (EnemyState) and polymorphism, enabling melee, ranged, and sea-based enemies to share core logic while exhibiting unique behaviors like evasion, patrol, and attack.
- Designed and integrated **parry mechanics**, projectile deflection, and timed vulnerability states using custom Hurtbox and EnemyHurtBox components.
- Leveraged Unity's **NavMeshAgent** and physics systems to create dynamic enemy movement patterns, including chase, patrol, and evasion states with radius-based detection.
- Optimized combat feedback through animation triggers, hitboxes, visual effects, and state transitions, enhancing player response and immersion.
- Structured clean, reusable C# scripts with inheritance for easy expansion and maintainability across different enemy types.

Agario Game Project (C#, MAUI, Client-Server Architecture) (Programmer, Designer)

- Generated an online game based on **C#**, developed the Client and Server for the real time game's interactions.
- Developed the GUI using **MAUI**, and Logger to record the running status of the game and for easier game maintenance.
- Compiled and reproduced the algorithms for ball movement, separation, and size adjustment based on "eating" enemies in Agar.io.
- Built simple AI movement behavior for "enemies" was programmed and encapsulated in **JSON** for transmission to the server for execution.

TECHNICAL SKILLS

Technology: Microsoft Suite, Visual Studio, VS code, Eclipse, Xcode, Qt Creator, Django, PhotoShop, Maya, ZBrush, UE5, Blender, AWS, Android Studio, PyCharm, MAUI, Git, Tailwind CSS, React, BOX2D, Gamemaker2, Unity

Programming Skills: Python, Java, C#, C++, JavaScript, Swift, Android Studio, CSS, HTML, SQL, Kotlin

Other: MVVM Pattern, AJAX, Database Management, UI/UX Design