

Haoxuan Ma

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Portfolio: cublegend.github.io

EDUCATION BACKGROUND

University of Michigan – Ann Arbor, MI, United States 08/2018 – Present

B.S. in Computer Science, B.S. in Cognitive Science, and minor in Music | Overall GPA: 3.7

Courseworks: Game Design | Software Quality Assurance | Artificial Intelligence and Machine Learning | Linear Algebra | Object-Oriented Design | Web System Design | Cognitive Science | Digital Music Composition

SKILLS

Programming Languages: C++ | C# | Java | Python | SQL | HTML | CSS | JavaScript

APIs/Tools: Unreal | Unity | Rest | Fetch | React | Flask | AR.js | Arduino | Ableton Live | Max

PROJECTS

YuanGu Project 08/2021 – 08/2022 Developer/Team Lead (team of 6)

- Designed and implemented the entire battle system and prototype game loop by using finite state machines, the pub-sub pattern, and the flyweight pattern.
- Designed systems such as the ability system, the status system, the AI system, and the navigation system.
- Utilized frameworks and third-party plugins such as Fmod and A* pathfinding to enhance gameplay and mechanics.
- Cooperated with the design and art team to finalize art concepts, level design, mechanics, and specific implementations.
- Guided the art team to implement animation, shaders, effects, and other art assets in Unity.

Ragnarok Tower Defense Game Project 09/2021 – 12/2021 Developer

- Developed this Bloons TD6 Replica game which is published on itch.io and steam with a group of 10+ students.
- Designed and implemented the tower placement system, the upgrade system, and the enemy life system.
- Participated in the design of the general tower structure and the enemy structure.
- Participated in the implementation of UI elements and editing tools.

A Maze In Game Project 09/2020 – 12/2020 Developer

- Worked with a group of 4 to create the multiplayer maze/puzzle game with an adventurous theme.
- Implemented basic features including the overall structure of the game, including UIs, the ability system, and enemy AI.
- Created most of the SFX, background music, and theme music loop using Ableton Live 10 and implemented them.
- Led the level design process and created the maze level with appropriate difficulty for players to compete with.

WORK EXPERIENCES

Bluebird Studios LLC 06/2022 – present ***Developer/Team Lead*** (team of 3+)

- Participated in the development of the game *Treat Team*, a casual puzzle game that is currently in open beta.
- Lead the team to conceptualize and develop an interactive base camp with a building/grid system and procedurally generated animals.
- Cooperated with the art team to solidify the animal procedural generation concept.
- Designed and implemented the timer system and the pathfinding system for the base camp.
- Designed some of the puzzle levels with varying difficulties.

Institute of Advanced Technology, University of Science and Technology of China 06/2021 – 08/2021

Research and Development Assistant

- Conducted research project on Vuforia's object recognition, surface detection, and marker-based augmented reality.
- Implemented projects on web-based AR solutions such as AR.js library, ARCore, three.js, and a-frame.
- Conducted detailed analysis on AR.js and ARCore; Individually developed sample applications with respect to each functionality provided by these two libraries—Image Tracking, Location Based, Marker Based, and Gesture Tracking.
- Improved previous projects' UI interactions, and ported previous applications to the web environment by using AR.js.
- Assisted in developing multiple augmented reality projects using Unity Engine and Vuforia AR.