

Andrew Qin

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EDUCATION

University of Southern California, Los Angeles, CA

M.S. of Computer Science, Game Development

May 2025

- Relevant Coursework: 3-D Graphics and Rendering, Game Programming in C++

Washington University in St. Louis, St. Louis, MO

B.A. in Biology & Minor in Computer Science

Aug 2019 - May 2023

- Relevant Coursework: Data Structures and Algorithms, Introduction to Systems Software, Object-Oriented Software Development Laboratory, Operating Systems Organization

TECHNICAL SKILLS

- Programming Languages: C++, C#, Blueprint, C, Java
- Version Control: Git, Perforce
- Tools and Engines: Unreal Engine, Unity, Visual Studio, VS Code, FMOD, OpenGL, SDL2, MS Office

ACADEMIC & PERSONAL PROJECTS

Graphics Rendering Library

Aug 2023 - Present

- Built graphics rendering library using C++ and Visual Studio
- Implemented triangle renderer with Z-buffer utilizing scan-line algorithm
- Developed triangle transformation library capable of transformation, uniform scaling, and rotations utilizing linear algebra techniques to develop screen space to model space rendering stack
- Coded lighting and shading library utilizing Phong, Gouraud, and flat shading algorithm techniques

Video Game Remakes

Jul 2023 - Aug 2023

- Developed a C++ codebase utilizing OpenGL and SDL2 libraries to create simplified versions of Portal and Legend of Zelda
- Created breakable blocks, top-down combat, and enemy AI using A-star pathfinding algorithm for Legend of Zelda remake
- Employed entity component system design pattern to create a maintainable and readable codebase which could be easily understood by other developers
- Utilized linear algebra techniques such as matrix transformations to create portal viewing effect and teleportation from portal game as well as different types of third and first person view cameras

LEADERSHIP & EXTRA-CURRICULAR ACTIVITIES

Makers of Entertaining Games Association (MEGA)

Los Angeles, CA

Community Leader

Aug 2023 - Present

- Enhanced club environment to be more inclusive and welcoming to a community of over 500 members
- Moderated and managed the Discord server, ensuring important announcements were seen and filtered spam messages
- Supported the Event Coordinator to ensure that flagship events such as game jams were run smoothly

Baseball Rising

Los Angeles, CA

Gameplay Programmer

Aug 2023 - Present

- Contributed to the MFA thesis game "Baseball Rising" working within the engineering group within our 24 member team
- Took an active role in the maintenance and fine-tuning of codebase, ensuring that files matched coding standards set by team
- Tracked for and fixed bugs that were reported on by QA team and fellow gameplay engineers
- Partnered with game design team to craft entity AI behavior using custom scriptable object feature of Unity to ensure designers could also easily understand and participate in implementation of AI behavior

Taurus Rising

Los Angeles, CA

Gameplay Programmer

Aug 2023 - Present

- Participated in the development of MFA thesis game "Taurus Rising" working primarily in the engineering division of our 15 person team
- Programmed "Harvesting" mechanic of game which vacuumed materials in game world into player inventory
- Designed game score feature which increased each time a material was harvested, eventually letting player move to next level
- Collaborated with design team to help create a procedural generation algorithm to spawn asteroids within game world that orbited in the sky