Aaron Gormley

Research scientist turned software engineer

aarongormley.net | linkedin.com/in/agormley3424 | agormley3424@gmail.com | (415) 377-0232

EDUCATION

University of Southern California — ***Los Angeles, CA***

- Master of Science, Computer Science — *Aug. 2022-May 2024*

University of California, Santa Cruz — ***Santa Cruz, CA***

- Bachelor of Science, Ecology and Evolutionary Biology (3.97 GPA) — *Sep. 2015-Jun. 2020*
- Bachelor of Arts, Computer Science (4.00 GPA)
- Graduated Summa Cum Laude

SKILLS

- Proficiency with C / C++, JavaScript, C#, Python, Java, Lua
- Relevant coursework: Game engine development, advanced game prototyping, linear algebra, computer graphics, advanced C++
- Experience with modern development tools such as Visual Studio, git, and Maya
- Background in technical writing and communication
- Experience with agile project management and team development

PROJECTS (aarongormley.net/projects)

Game Engine Tools — *USC*

C++, Direct3D, Maya, Python — *Fall 2022*

- Created a suite of tools and systems for the PrimeEngine, a C++ based game engine. While it already supported basic rendering and movement, these are wholly original additions
- **Navmesh**: Developed a navmesh system that allows NPCs to navigate using A* graph searches. It supports dynamic obstacle avoidance and on-the-fly pathfinding adjustments
- **Collision Physics**: Wrote a collision management system that adjusts NPC movement when colliding with an object
- **Mesh Deformation**: Wrote custom shaders, which used an extra set of vertex buffers to dynamically displace vertices according to height and proximity to deformation sources

WorldBuilder Map Generator — *UC Santa Cruz*

JavaScript, p5.js — *Fall 2019*

- Led the creation of a procedural map generator based off algorithms from the scientific literature
- Generator uses several stages of agent-based AI to procedurally generate believable landmasses
- I implemented both core AI functionality and front-end UI and web integration

Rendering Engine — *UC Santa Cruz*

JavaScript, WebGL, HLSL — *Winter 2020*

- Developed a whole low-level rendering engine in WebGL, which supports UV-mapped textures, dynamic phong shading, and free camera movement