Scott Lee

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SUMMARY OF QUALIFICATIONS

Recent college graduate from UC San Diego with strong 3D math and graphics programming experience through coursework and projects with brief internship experience. Proficient in C++ with familiarity in OpenGL, OptiX, CUDA, and more...

EDUCATION

University of California, San Diego | B.S. in Math-C.S. | GPA: 3.81/ 4.00 | Minor: Econ. Sep. 2017 - Jun. 2021

- Relevant Coursework: Data Structures, Algorithm Design & Analysis, Linear Algebra, Vector Calculus, Computer Animation, Computer Graphics: Rendering.

SKILLS

C++, C, Python, Java, C#, Assembly | Unity, Unreal Engine 4, OpenGL, OptiX, CUDA, Git, Visual Studio, Linux, Vim | Independent, Problem-Solving, Communication, Adaptability

PROJECTS

Particle and Cloth Simulation | C++, OpenGL, Visual Studio | ssl105.github.io/Particle-and-Cloth-Simulation | Mar. 2021

- Incorporated Newtonian physics and integral estimation to animate particles and cloth.
- Implemented basic ground collision detection and resolved the collision using impulse and friction physics.
- Increased accessibility by adding user controls to adjust various parameters in both simulations.

Raytracer and Pathtracer | C++, OptiX, CUDA, Visual Studio | ssl105.github.io/Raytracing-Images | Mar. 2021 - May 2021

- Accelerated raytracing intersections by utilizing bounding volume hierarchy.
- Increased realism through random sampling of the light source and reflected direction.
- Improved rendering quality by using modern rendering and lighting equations.

Game Modification Projects | C#, Unity | scolee925.itch.io Jun. 2021 - Jul. 2021

- Modified 2D and 3D games with assets provided by Michigan State University.
- Adapted from existing gameplay features such as player abilities, player movement, and user interface elements.
- Designed new and coherent levels revolving around the modified gameplay features.

Among Us Graphics Project | C++, OpenGL, Visual Studio | Code on GitHub Dec. 2020

- Organized astronaut transforms and geometry by utilizing scene graph structure.
- Maintained the original aesthetic of the game by using cel-shading along with basic bounding sphere collision.
- Implemented randomized spawning and despawning of astronauts with particle effect as well as random AI movement.

2048 Remake | Java, Linux, Vim | Code on GitHub Dec. 2017 | Dec. 2020

- Enhanced accessibility through adding a graphical user interface.
- Programmed gameplay functions to create gameboard, carry out valid moves, and read user input.
- Added an AI solver using a game theory search algorithm with a heuristic function to predict the next best move.

WORK EXPERIENCE

Software Engineer Intern | University of California, San Diego | Remote Jan. 2021 - Mar. 2021

- Upgraded traceroute visualization in Unreal Engine 4 through the use of splines and data from ArcGIS.
- Carried out cloud deployment through test jobs and pods in Kubernetes training.

IT/DevOps Intern | Think Surgical Inc. | Fremont, CA Jun. 2019 - Sep. 2019

- Researched and deployed network monitoring solutions to track network servers and software through SNMP.
- Edited and maintained work instructions and standard operating procedures to address non-conformance issues raised by quality control.

ADDITIONAL INFORMATION

Hobbies & Interests: Basketball, Badminton, Tennis, Gaming, Game Design, Technology, Stock Trading, Music, Music Production, Fashion, Marvel Films, Sci-Fi, Space, and Quantum Mechanics.