

CHRISTIAN ROBLES

Graphics & Gameplay Programmer

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PROJECTS

Vulkan Graphics Engine 2023 – current
Developing a Vulkan engine with the C++ API, VMA, SDL2 and ImGui. Currently supports rendering complex glTF models with textures, normal maps, Blinn-Phong shading and directional shadow maps.

Grandma Green 2022 – 2023
Collaborated on the development of a virtual pet and farming simulation game in Unity with 6,800+ downloads on the App Store. Owned the design & delivery of garden state, crossbreeding and dailies.

Directed Research: EARS 2022 – 2023
Developed a Monte Carlo Forward Path Tracer demonstrating results from the SIGGRAPH '22 publication “EARS: efficiency-aware Russian roulette and splitting” with the advisory of Professor Ulrich Neumann. Shared a bi-weekly development series on my blog and LinkedIn with 8,500+ cumulative impressions.

MaterialX Standard Surface to glTF Export 2022
Worked with the Autodesk Graphics Platform team to extend MaterialX with an export workflow from Autodesk Standard Surface to glTF PBR. Contributed implementation back to MaterialX as open-source.

Ray Marching Renderer 2022
Led a team of four students in the design and development of a ray-marched signed distance function renderer demonstrating procedural materials, displacement surfaces, and fractals.

WORK EXPERIENCE

Software Engineer Intern, Autodesk 2022
Extended MaterialX with the Autodesk Graphics Platform team.

Software Engineer II, Microsoft 2017 - 2021
Delivered cloud solutions with strategic partners in healthcare and finance.

EDUCATION

Master of Computer Science, Multimedia & Creative Technologies 2021 - 2023
University of Southern California, 3.73 GPA

Bachelor of Computer Science 2013 - 2017
Arizona State University

SKILLS

Programming Languages
C++, CMake, C#, Python, TypeScript

Software & APIs
Vulkan, GLM, SDL2, ImGui, RenderDoc, Unity, Godot