Software Engineer - Omniverse @ NVIDIA
Los Angeles Metropolitan Area

Summary

Strong interests in mathematics, software development, and engineering. Currently working as a software engineer at NVIDIA (Omniverse platform).

Experience

NVIDIA
Software Engineer
January 2023 - Present (1 year 6 months)
Los Angeles Metropolitan Area

NVIDIA
Software Engineer Intern
June 2022 - September 2022 (4 months)
Los Angeles County, California, United States

Helping develop a data adaptation library to optimize the processing of large, complex scenes in Nvidia's Omniverse (low-level library implementation is done using C/C++ and Pixar's USD API, with some functionality exposed on a higher level using Python bindings). Developing a prototype deferred-execution system for optimizing compute graphs (node executions are deferred to key locations within the graph). Writing a set of advanced geometry deformers that function as operators on a compute graph, including a softwrap deformer that uses a low-resolution "driver" mesh to deform/animate high-resolution "driven" geometry (implemented using Python/Warp and various internal Omniverse APIs), and a smooth skin decomposition tool for converting animated mesh sequences into weighted skin clusters and joints (implemented using C/C++, USD, and various internal Omniverse APIs). Integrating a prototype parallel execution framework with various other animation/deformation pipelines to gauge performance gains and potential future development avenues.

SOuP-dev
Software Developer
December 2020 - June 2022 (1 year 7 months)

Los Angeles Metropolitan Area

Working on creating/updating tool sets that augment and expand Autodesk Maya's current capabilities in the context of a flexible, procedural pipeline, with the overall goal of improving efficiency by minimizing the need to write code during production. Utilizing the Maya C++ API to implement new procedural methods for the SOuP plugin, including a smooth skin decomposition solver that converts animated mesh sequences into weighted skin clusters and joints for portability to game engines. Tackling a backlog of needed bug fixes and feature updates, ranging from UI layout redesign using MEL to expanding existing functionality to account for more general use cases.

University of California, Los Angeles

Mechanical and Aerospace Engineering (MAE) Department Grader
September 2021 - December 2021 (4 months)
Los Angeles, California, United States

Assigned to grade students' problem sets for one of the MAE department classes offered over the Fall 2021 quarter.

Mathnasium - The Math Learning Center

Mathnasium Math Tutor
October 2016 - March 2017 (6 months)
Los Angeles Metropolitan Area

Taught students from K-12 a variety of math topics based on their assigned Mathnasium curriculum. Assist students with any math-related homework they were assigned at school.

Education

University of California, Los Angeles

Bachelor of Aerospace Engineering, Aerospace, Aeronautical and Astronautical Engineering · (September 2019 - December 2022)