

Anthony Angeles

aangeles0280@gmail.com | linkedin.com/in/aneangeles | aangeles.org

Languages: Python, C++, React, MySQL, C#

Skills: 3D Perception, Simulation, Path Planning, ROS2, Unity3D, Unreal, Reinforcement Learning, AI, Isaac Sim/Lab, Native Spanish Speaker

Experience

NVIDIA

Software Engineer

(Intern: Summers 2021–2023)

Santa Clara, CA

July 2024 – Present

Product Development Engineer for GeForce – Internal Tooling Platform

- Lead technical developer for an internal platform supporting high-throughput data workflows across cross-functional teams.
- Implemented major development initiatives integrating critical services into the core platform, expanding its capabilities and scope.
- Architecture new back-end modules and RESTful APIs to support internal tools and automation.
- Integrated parallel computing into workload pipelines to improve concurrency and reduce execution time.
- Currently leading the bring up and development of an entirely new cross functional internal platform

Isaac Sim – Robotics Simulation and Learning Platform

- Implemented ROS2 publishing for odometry in Isaac Sim from 2D to full 3D motion data, including linear and angular velocities on the X, Y, and Z axes.
- Implemented unit tests to ensure functionality and regression coverage for ROS2 odometry publishing pipelines.
- Integrated multiple AMR configurations into simulation-based ROS2 unit tests to validate generalized odometry behavior across robot types.
- Updated transform trees frame name method to become automatic based on hierarchy including target and intermediate prims
- Maintain production code for ROS2 within Isaac Sim along with unit tests

Publications

Designing a mixed-initiative multi-user VR interface for wildfire mitigation

University of California, Santa Cruz

April 2023

- In collaboration with civil engineering researchers in the Soga Group at UC Berkeley, we are designing multi-user VR applications so groups of stakeholders can navigate simulations and datasets related to mitigating harm from wildfires.
- we tested an object detection tool's capability for identifying vegetation, a component of modeling wildfire spread.

Research Experience

Research Assistant – VR Lab, Baskin School of Engineering

Advisor: Samir Ghosh

Santa Cruz, CA

Nov 2022 – Sept 2023

- Developed a computer vision pipeline to detect flammable objects in equirectangular VR imagery for immersive training applications.
- Integrated YOLOv8 and Meta Detectron2 to perform real-time object segmentation and labeling.
- Contributed to a research publication using this tool submitted to CHI.

Research Assistant – AIEA Lab, Baskin School of Engineering

Advisor: Leilani Gilpin

Santa Cruz, CA

Jan 2024 – June 2024

- Contributed to research towards perception, object detection, and segmentation in autonomous vehicles.
- Investigated the best methods for motion and path planning using perception and sensor fusion.
- Worked towards a submission for the Waymo Open Dataset Competition.

Research Assistant – cSINO Lab, Department of Education

Advisor: Erin Asamoto
Santa Cruz, CA

Jan 2023 – Jan 2024

- Contributed to research in education regarding CS and STEM in elementary schools, specifically Spanish speakers.
- Translated STEM curriculum from English to Spanish.
- Helped draft ideas for curriculum regarding CS topics.

Projects**A* Path Planning Environment**

C#, Unity

May 2024

- Implemented a fully autonomous agent using pathfinding to follow the shortest path to a target in a dynamic environment.
- Designed an interactive 3D environment where users can place obstacles and observe real-time path planning.
- Implemented an agent using an A* algorithm that dynamically re-plans paths based on the user-modified environment.

Reinforcement Learning for Manipulators

Python, Isaac Lab

April 2025

- Used Isaac Sim to create a franka panda robot to create an asset to be used in Isaac Lab.
- Trained the franka panda to achieve a end goal pose and orientation.
- Developed reward functions and goal weights to create a fast yet precise behavior in reaching the end goal.

Google Deepmind Robot Ballet Implementation

Python, MuJoCo

Sept 2025 - Present

- Implemented PPO policies to train a Franka panda robot to reach a randomly generated end goal pose within its environment using RL.
- Used MuJoCo to simulate the results of the training and evaluate the best model.
- Actively working towards attempting to get a working replication of the Google DeepMind white paper

Particle Fluid Simulation

C++

Jan 2025

- Implemented a 3D interactive simulation based on particle physics.
- Used real physics for particle collisions and other physics necessary to create fluidity.
- leveraged graphics and GPU resources to optimize the runtime and give heat maps for excited particles.

Autonomous Air Hockey Adversary

C++/Python

Dec 2025

- Implemented embedded logic for motor control theory based off of computer vision.
- Integrated sensor fusion in our robotic system from IR sensors to Camera data.
- Built a network of micro controllers talking to a Jetson Orin Nano as feedback for our system to provide the correct data commands.

Education**Santa Clara University, Santa Clara**

M.S. Robotics and Automation

June 2027

University of California, Santa Cruz

B.S. Computer Science

June 2024