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Ji Yuan “Steven” Feng

EDUCATION

Stanford University, Master of Science in Electrical Engineering **2024 - Present**
Cumulative Average: 3.7 GPA
Courses: CS 237A, CS 237B Principles of Robot Autonomy I, II, EE227 Robot Perception, CS 224R RL

University of Waterloo, Bachelor of Applied Science, With Distinction **2018 - 2023**
Mechatronics Engineering, Artificial Intelligence Option, Honors, Co-operative Program
Cumulative Average: 85.04% (3.7 GPA)
Clubs: SAE AutoDrive Challenge (Level 4 Autonomous Vehicle), Waterloop (Hyperloop)
Scholarships: President’s Scholarship, Sanford Flaming Foundation Award, Term Dean’s Honor List

PUBLICATIONS

J. Y. Feng, A. Kissel, "Simulating a Dextrous Hand For Robotics With OpenUSD," in SIGGRAPH Courses '26, July 2026, doi: 10.1145/3799820.3812501

J. Y. Feng, A. Kaufman, “Learn OpenUSD: Robotics Best Practices,” in SIGGRAPH Labs ’25, Article No.: 1, Page 1, doi: 10.1145/3721251.3736528

J. Y. Feng, R. Chadha, “Digital Twin Robotics: Immersive Software-in-the-Loop Testing with OpenUSD, Isaac Sim, and ROS,” in SIGGRAPH Labs ’25, Article No.: 4, Page 1, August 2025, doi: 10.1145/3721251.3734066

N. Abdulazeem, N. Sichert, **J. Y. Feng** and Y. Hu, "Quantifying Human Mental State in Interactive pHRI: Maintaining Balancing," in IEEE Robotics and Automation Letters, vol. 10, no. 3, pp. 2958-2965, March 2025, doi: 10.1109/LRA.2025.3539103.

M. Mittal et al., "Isaac Lab: A GPU-Accelerated Simulation Framework for Multi-Modal Robot Learning," arXiv preprint arXiv:2511.04831, 2025. (Contributor **J. Y. Feng**)

RESEARCH

Active Interactive Robotics Lab, University of Waterloo **01/2023 – 04/2023**
PI: Professor Yue Hu

- Brainstormed and assisted with conducting experiments to analyze the effect of active vs passive robot behavior on human cognition during robot assisted balancing tasks
- Developed scripts to track human body pose and worked with the Sawyer robot using ROS
- Experimented with devices to simulate loss of balance and sensors to measure human mental stress

WORK EXPERIENCES

Robotics Systems Engineer, NVIDIA Corporation **06/2023 – Present**

- Unified sim ready digital twin standards by developing URDF and MJCF to USD importers for Isaac Sim, with modularized robot models for data collection, simulations, and training workflows

- Curated a sim ready robot library with over 100 humanoids, quadrupeds, manipulators, grippers, and mobile robots for training and deployment in Isaac Sim and Isaac Lab
- Developed end to end workflows and tutorial for composing robotic arm digital twins with inverse kinematics controller, presented at *NVIDIA GTC*, ROSCon, and *SIGGRAPH* for 200+ attendees
- Developed sim to sim transfer pipeline for evaluating reinforcement learning policies across different simulated environments in Isaac Sim, and built RL based locomotion and manipulations examples for humanoids, quadrupeds and manipulators, presented at *SIGGRAPH*
- Mentored three interns with curated projects such as Ackermann controller, asset catalog generator

Vehicle Firmware Developer Intern, Tesla Inc **05/2022 – 08/2022**

- Designed "Semi Lighting Test" for controlling 19 unique light groups across 4 controllers in C for Tesla Semi truck pre-trip lighting inspection, featured at the *Tesla Semi Delivery Event*
- Set up simulations for the Tesla Semi lighting controllers and created software in the loop tests using Python. Brainstormed and drafted vehicle technical requirements on Polarion
- Brought up light fault detections and alerts for Tesla Semi tractor and trailer lights with C via CAN
- Developed self-tests for checking vehicle mirrors, latches, horns in C to speed up factory verification

Robotics Simulation Developer Intern, NVIDIA Corporation **01/2022 – 04/2022**

- Developed example for simulating and controlling the Unitree quadrupeds in Isaac Sim
- Created ROS and ROS 2 stereo vision SLAM examples for quadrupeds in Isaac Sim
- Created Isaac Sensor extension for simulating physics-based sensors, created USD schema for sensors which enables visualization and modification of sensor parameters using the GUI at runtime

Embedded Systems Developer Intern, Ecobee Inc **05/2021 – 08/2021**

- Built display testing pipeline using C++, OpenCV to detect discoloration, misalignment for the Ecobee smart thermostat, capable of detecting color disparity and alignment offsets of 0.5mm

Teaching Assistant, University of Waterloo **09/2020 – 12/2020**

- Hosted labs and tutorials for ECE 150 Intro to C++ course for 400+ students, designed examinations

Innovation Intern, Khazanah America Incorporated **01/2020 – 04/2020**

- Developed vision-based control method for drones using OpenCV to track and follow Aruco marker
- Created a VR FPS game based on Atari's Asteroid using Unity, C#, and Oculus Developer toolkit

Software Developer Intern, Ford Motor Company **05/2019 – 08/2019**

- Developed scripts for automatic scheduling and testing of vehicle chips on Jenkins and TestStand

PROJECTS

Personal Server **08/2024 – Present**

- Integrated Ollama and OpenWebUI to host local large language models, accessible publicly
- Expanded server capabilities with cloud storage, image browser, virtual machines, and offsite backup

Multi-Robots Mapping Application (Capstone Project) **09/2022 – 04/2023**

PI: Dr. Mike C. Stachowsky, Professor Sanjeev Bedi,

- Developed scalable multirobot SLAM solution using a shared server for collaborative goal assignment and global map sharing, and frontier exploration algorithm in a group of four
- Configured simulation environment in Isaac Sim, connected the SLAM algorithm in sim
- Deployed the workflow using 3 TurtleBots and demoed at the symposium live for 100+ audiences