XIAOYE ZUO

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Science — June 2024, Philadelphia
Master of Science in Engineering in Robotics — GPA: 3.88/4.0

University of California, San Diego, Jacobs School of Engineering — June 2022, San Diego
Bachelor of Science, Major in Computer Engineering, Minor in Business — GPA: 3.82/4.0
Honors: cum laude, IDEA Scholar, Henry G. Booker Award Recipient

SKILLS

Programming Languages: Python, C++
Software : PyTorch, OpenCV, ROS, AWS, CUDA, Slurm
Coursework: Advanced Machine Perception, Computational Photography, Deep Learning, SLAM

WORK EXPERIENCE

Software Engineer — Daxo Industries Inc. March. 2023 - Oct. 2023
- Developed an image-based fruit detection pipeline based on YOLOv8 using ROS and PyTorch with a ZED stereo camera
- Implemented streaming RGBD data storage pipeline for learning system improvement using AWS S3, ROS, and OpenCV
- Designed Dockerized vision pipeline that reduced setup time by over 90% on NVIDIA Jetson Orin Nano

Research Intern — Advanced Robotics and Control Lab Jan. 2021 - April 2022
- Built a PID controller for a blower to simulate human breathing patterns on a lung phantom for surgical robots
- Tracked the lung motion using a Kinect Azure RGBD camera and ArUco markers using ROS and OpenCV
- Designed a compact PCB using Altium to improve circuit reliability and protect the Teensy from overvoltage

TECHNICAL EXPERIENCE

Facial Landmark Tracking Oct. 2023 - Dec. 2023
- Implemented an end-to-end facial landmark tracking system for videos using facial landmark detectors and TAPIR
- Evaluated tracking accuracy of facial landmark detectors including ADNet, PIPNet, and Facial Alignment Network

Advanced Machine Perception Aug. 2022 - Dec. 2022
- Implemented objection detection and segmentation based on YOLO, SOLO, and FastRCNN using PyTorch and CUDA
- Trained a conditional image synthesis model for multimodal image-to-image translation using PyTorch and CUDA

Principle member - TritonAI Oct. 2020 - Jan. 2021
- Built and trained an autonomous RC car using NVIDIA's Jetson Nano and Jetracer AI framework
- Designed support structures and 3D-printed detachable magnetic camera mount for collision protection
- Improved steering using perspective transform on detected lanes in the Donkey Car simulator

LEADERSHIP EXPERIENCE

Tutor — UCSD ECE Department Mar. 2020 - Mar. 2022
- Facilitated student discussions of digital signal processing during weekly office hours
- Engaged in designing remote transitions of course offering in response to COVID-19

Vice Chair External — IEEE at UCSD June 2020 - May 2021
- Obtained event and project sponsorship from local companies such as Qualcomm and BrainCorp
- Hosted workshops in collaboration with industry leaders on advanced topics such as quantum computing

Global Seminar Participant — Ireland's Silicon Valley Program Aug. 2019 - Sep. 2019
- Studied organizational leadership and workplace diversity at Trinity College Dublin and University Collage London
- Gained practical insights on corporate cultures and international relations through visits to FactSet and KPMG