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, Docker, Slurm
Specialization: Computer Vision, Deep Learning, F1Tenth Autonomous Racing, Control and Optimization

WORK EXPERIENCE

Computer Vision Software Engineer Intern — Daxo Industries Inc. March. 2023 - Oct. 2023
- Developed a vision-based fruit detection pipeline with 95% accuracy 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 to under 1 minute on an NVIDIA Jetson Orin Nano

Research Intern — Advanced Robotics and Controls Lab Jan. 2021 - April 2022
- Built a blower-based ventilator using PID controller and pressure sensors to simulate respiratory motion on a lung phantom
- Implemented real-time lung motion tracking with a Kinect Azure RGBD camera and ArUco markers using ROS and OpenCV
- Designed a compact PCB using Altium to improve circuit reliability and protect microcontrollers from overvoltage

TECHNICAL EXPERIENCE

Facial Landmark Tracking Oct. 2023 - Dec. 2023
- Implemented a robust facial landmark tracking pipeline for long videos and modularized the code for easy deployment
- Improved tracking accuracy by incorporating SOTA facial landmark detectors including ADNet and PIPNet

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 to race on outdoot tracks using NVIDIA's Jetson Nano and Jetracer AI framework
- Designed support structures using SolidWorks and 3D-printed detachable magnetic camera mount for collision protection
- Implemented perspective transform on RGB images to generate top-down scenes that improved lane detection

LEADERSHIP EXPERIENCE

Tutor — UCSD ECE Department Mar. 2020 - Mar. 2022
- Facilitated discussions of digital signal processing using MATLAB for a 150-person class during weekly office hours
- Helped design class components to transition from in-person to remote teaching in response to COVID-19

Vice Chair External — IEEE at UCSD June 2020 - May 2021
- Designed sponsorship plans and successfully obtained fundings from companies including Qualcomm and BrainCorp
- Coordinated workshops that invited industry leaders to discuss 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