Hao A. Le

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PROFILE

Electrical engineering undergraduate with over three years of machine shop manufacturing and mechatronics design experience. Also capable of tackling programming-heavy projects. Competent in disseminating information concisely in writing and speech.

EDUCATION

Bachelor of Science
University of California, San Diego, La Jolla, CA, expected June 2023
Concentration: Electrical Engineering
Minor: Studio Art
GPA (as of 2020): 3.88

EXPERIENCE

Since Early 2020

Video Processing Lab UCSD

- Supervised by Dr. Truong Nguyen.
- Specializing in a Unity3D synthetic platform for autonomous driving data generation and algorithm benchmarking.
- Produced large, diverse datasets tailored for robust object detection.
- Collaborated with feature matching researchers by generating synthetic point cloud data and pose ground truth.

Summer 2017, 2019

Robotics and Mechanisms Laboratory UCLA, Westwood, CA

- Worked under a doctoral student to develop a novel compliant robotic actuator design that is compact yet can deliver up to 150 Nm and 15 degrees of deflection.
- Designed in Solidworks and manufactured prototype parts using CNC and wire EDM; experimented using system ID, frequency sweep, and LabVIEW data collection.
- Aided in writing and editing paper using LaTex to be submitted to IROS 2020.
- Prototyped a novel torque coupler design capable of selecting multiple paths of power transmission.

Spring 2019

UCSD Electrical and Computer Engineering Department, IEEE Quarterly Projects (Theme: Home Automation)

- Led a team of three to create the Modular Watering System capable of caring up to eight plants with a central watering arm.
- Soldered extensively to protoboards; manufactured with 3D printer and laser cutter; programmed using Arduino C and Blynk platform to monitor parameters of plants.
- Exhibited prototype and documentation at symposium; won first place overall.

Fall 2019 - Spring 2020

UCSD IEEE Project Drive

- Worked on mechanical and embedded systems of tenth-scale RC car.
- 3D printed customized mounts for hardware.
- Programmed NVIDIA Jetson running ROS to perform SLAM using RGB-D and LiDAR data.

SKILLS

C/C++/C#; PHP; HTML with CSS; Docker; Python; ROS; Solidworks; Eagle; MATLAB; Wire EDM; CNC milling; soldering

PERSONAL INTERESTS

Guitar; audio recording and production; oil painting; fish-keeping & aquascaping; gardening; fostering animals