Hao Le

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Summary

Electrical engineering undergraduate with over three years of mechatronics design and manufacturing experience, capable of tackling programming-heavy projects. Competent in disseminating information concisely in writing and speech. Practices fine art, guitar, aquascaping, gardening, and hiking as pastimes.

Education

University of California, San Diego

2018 - 2022 (Expected)

B.S. in Electrical Engineering, GPA: 3.9 as of 2022

- Concentrating on machine learning and controls. Minoring in studio arts.
- Hardware/software classes: ECE: 5, 15, 111, 144, 148.

Experience

Quartus Engineering

Since Summer 2021

Electrical Engineering Intern

- Altium schematic/PCB and cable assembly design.
- Beckhoff Automation PLC for optomechanical applications.
- Verilog HDL in Vivado; Vitis vare metal apps deployed on Xilinx SoC FPGA boards.
- Robotics and motion-planning with MATLAB, CoppeliaSim, and ROS.

Video Processing Lab UCSD

Since early 2020

Student Researcher

- Co-authored ISOCC 2021 paper *Human-Inspired Camera: A Novel Camera System for Computer Vision*.
- 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.

Robotics and Mechanisms Laboratory UCLA

Summer 2017, 2019

Interning Researcher

- 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 submitted to IROS 2020.
- Prototyped a novel torque coupler design capable of selecting multiple paths of power transmission.

IEEE Project Drive UCSD

Fall 2019 - Spring 2020

Project Mechatronics Head

- Part of tenth-scale RC car racing competition team responsible for mechanical and embedded systems.
- 3D printed customized mounts for hardware and fabricated chassis out of metal.
- Programmed NVIDIA Jetson running ROS to perform SLAM using RGB-D and LiDAR data.

IEEE Quarterly Projects UCSD (Theme: Home Automation)

Spring 2019

Project Head

- 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 lasercutter; programmed using Arduino C and Blynk platform to monitor parameters of plants.
- Exhibited prototype and documentation at symposium; won **first place** overall.

Skills

Programming Languages	***Experienced:*** Python | C | C# ***Familiar:*** CLI | C++ | PHP | HTML & CSS | Verilog
Software	Unity3D | Altium | SolidWorks | GIT | Docker | LabVIEW | MATLAB | PSpice | KiCAD
Frameworks & Libraries	Jupyter | Matplotlib | Numpy | Pandas | Scikit-learn | PyTorch | Tensorflow
Practical	PLC | FDM & SLA 3D printing | Soldering | CNC | Wire EDM
Languages	Fluent in English and Vietnamese