Peter Tran

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EDUCATION

California State University, Fullerton | Fullerton, CA *August 2018 - January 2023*

- Bachelor of Science in Computer Engineering
- *Relevant Coursework:* Digital Logic and Computer structure, Operating Systems Concepts, Object-Oriented Programming, Data Structures, Microcontrollers, Modeling and Simulation of Signals and Systems, Designing with VHDL, Electronics

SKILLS

Programming Languages | C++, Verilog, VHDL, ARM Assembly, Python, Java
Operating Systems | Microsoft Windows OS, Linux OS
Software | KiCad, MATLAB, LTSpice, NI Multisim

EXPERIENCE

Summer Undergraduate Research Academy | *Research Intern* | Fullerton, CA *June 2022 - August 2022*

- Developed a predictive model for optimal power allocations using MATLAB's neural network tools and Random Forest Classifier.
- Analyzed I-V characteristic graphs by validating voltage and current normalization datasets.
- Collaborated with research teams to refine methodologies, improving model accuracy.

Undergraduate Independent Research | *Research Assistant* | Fullerton, CA *January 2022 - August 2022*

- Optimized solar cell output for micro-autonomous drones using MATLAB's machine learning tools.
- Researched optical sensors, LiDAR, and remote sensing for enhanced forest fire detection capabilities.
- Analyzed large datasets to improve drone detection and system efficiency.

PROJECTS

Ultrasonic Speakers | *Team Lead* | Fullerton, CA *January 2022 - December 2022*

- Designed an ultrasonic speaker modulated at 40 kHz for focused audio applications in museums and commercial spaces.
- Assembled electronic components, including a 555 timer, L293DNE driver, and a high-pass filter circuit.
- Conducted intricate electrical operations and programmed a microcontroller for digital signal processing.

TitanRover: Mobility Sub Team | *Team Member* | Fullerton, CA *January 2021 - September 2022*

- Developed and tested robotic arm using stepper motors, drivers, ROS framework, and Micropython.
- Evaluated and integrated electronic speed controllers for thermal efficiency and power distribution.
- Utilized ROS-based communication system to manage mobility functions of the arm.

Traffic Light Operation | *Coursework Project* | Fullerton, CA *January 2022 - March 2022*

- Designed a traffic light control system using an MSP432 microcontroller with Code Composer Studio.
- Implemented a Finite State Machine algorithm for efficient traffic and pedestrian signal coordination.

Custom PCB Design | *Ongoing Project* *August 2024 - Ongoing*

- Designing and simulating a simple PCB layout to reinforce skills in schematic capture and circuit board design
- Exploring component libraries, routing techniques, and design rules for PCB manufacturing
- Aiming to produce a function prototype board for personal electronics or robotics applications.

PROFESSIONAL DEVELOPMENT

KiCad PCB Design Course | *Udemy* *August 2024 - Ongoing*

- Learning schematic capture, PCB layout, and routing techniques to design functional circuit boards.
- Developing skills in creating multi-layer PCB designs and understanding design rules for manufacturing.

ADDITIONAL EXPERIENCE

FPGA Development

- Developed FPGA designs using Verilog and VHDL for optimized control systems on Xilinx devices.
- Worked extensively with Vivado to program and test FPGA components.

Project Management and Team Leadership

- Led a multidisciplinary team to design, develop, and test engineering solutions on time and within budget.
- Managed resources and project timelines, ensuring smooth collaboration across technical teams.