# Tung Do

M.Sc. ECE – Robotics candidate | Research Assistant | University of Michigan, Ann Arbor | Seeking Summer 2024 Internship
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## EDUCATION

**University of Michigan, Ann Arbor** Aug 2023 – May 2025
*Candidate for Master of Science in Electrical and Computer Engineering, Robotics area* Ann Arbor, MI

- Coursework: Self-driving Cars, Embedded Control System, Math for Robotics (Fall 2023)
  Machine Learning, Deep Learning for Computer Vision, Reinforcement Learning (Winter 2024)
- Cumulative GPA: 4.0/4.0. Member of the Institute of Electrical and Electronics Engineers.

**California State Polytechnic University, Pomona** Aug 2018 – May 2023
*Bachelor of Science, magna cum laude, in Electromechanical Systems Engineering Technology - Valedictorian* Pomona, CA

- Cumulative GPA: 3.7/4.0. Member of Tau Beta Pi – The Engineering Honor Society.

## PROFESSIONAL EXPERIENCE

**Research Assistant/Embedded Systems Engineer** Aug 2023 – Present
*TD-Rex Rover Research in ROAHM Lab at the University of Michigan, Ann Arbor* Ann Arbor, MI

- Working on speeding up the segmented camera stream for the research's machine learning model using ROS C++, OpenCV, and Rviz.
- Integrating the MPC model for the new rover using ROS C++.
- Programmed embedded control on STM32 VESC and Jetson TX2's Linux environment for a new Autonomous Rover.

**Embedded Systems Engineer** Aug 2022 – May 2023
*Northrop Grumman Collaboration Project 2022-2023* Pomona, CA

- Successfully launched autonomous flight, keeping the Unmanned Aerial Vehicle (UAV) in the air at 200ft height from the ground for 20-minute flights, by developing Python scripts on Jetson Nano's Linux environment and uploading the mission to the Pixhawk.
- Integrated ROS Python and programmed STM32 MCU using Embedded C to communicate two Raspberry Pi for the Unmanned Ground Vehicle (UGV).
- Gave a presentation about our work in the Preliminary Design Review meeting at the Northrop Grumman facility in Palmdale, CA.

**Embedded Software Engineer Intern** May 2022 – Aug 2022
*FPT USA Corp.* El Segundo, CA

- Developed streaming platform for Roku device using BrightScript language and SceneGraph library.

**Software Developer Intern** May 2021 – Jul 2021
*Rakuna (during COVID-19)* Hanoi, Vietnam

- Developed Rakuna's Recruiting website, using Ruby on Rails, ReactJS, HTML/CSS, SQL, and RESTFUL API.

## PROJECTS

**FPGA Projects | Project Owner** Jan 2023 – May 2023

- Compiling/Developing a complete FPGA development toolchain for MacOS CLI users.
- Developed Verilog code for I2C communication between an FPGA and a current sensor, including a clock signal synchronizing data transfer between devices.
- Integrated a PMOD display into the system to provide real-time monitoring of current readings of the phone under charge.

**Autonomous Robot Competition | Lead Engineer** Aug 2022 – Dec 2022

- Won 2nd place in the competition using C, C++, Python, OpenCV on Raspberry Pi, and STM32 MCU.
- The robot was praised as the best and most stable performance throughout the competition. The hardware never had any issues.
- Administered weekly meetings to check progress, give feedback, test more than 200 times, and assign new tasks to 6 team members.

**Autonomous/RC Mecanum Wheel Tesla Roadster 1:6 | Project Owner** Jan 2022 – Dec 2022

- Successfully developed wireless control/automatic features on the vehicle with 6 Arduinos communicating with each other through NRF24L01 radio modules within a range of 160ft, and developed autonomous functions, including self-parking and object avoidance, using C, C++.

## SKILLS

- Robotics: ROS, Rviz, Gazebo, OpenCV, NumPy, Pandas
- Languages: C, C++, Python, Java, Verilog, MATLAB, Bash/Shell Scripting
- Hardware: Linux, MCU, SBC, FPGA, x86, arch, ARM, RISC-V, I2C, SPI, USART, USB, RTOS, Debugger IDE, Vim, CLI, Git, Simulink
- CAD: SolidWorks, 3D Printer, Ansys