

HOANG VU

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EDUCATION

University of Waterloo

Bachelor of Applied Science in Mechatronics Engineering Honours, Co-op Program

September 2019 – Apr 2024

Waterloo, Ontario

TECHNICAL SKILLS

Mechanical: SolidWorks, AutoCAD, SpinFire Ultimate, GD&T

Electrical: Arduino, VHDL, PLC, Assembly, Soldering

Software: Python, C++, JavaScript, ReactJS, HTML, CSS, Git, ROS2, Gazebo

Tools: MATLAB, Simulink, MS Office, Keil Vision 5, RoboViz

EXPERIENCE

Yanfeng - Yanfeng Automotive Interiors

May 2023 – August 2023

Manufacturing Verification Intern

Mississauga, Ontario

- Created design verification procedure for vehicle component assembly line on over **100,000** Chrysler Pacifica models
- Built an automated data collection system using **VBA** to monitor OEMs' status for annual part production approval
- Monitored and analyzed scrap system with suppliers reject reports to identify defective parts, validating chargebacks
- Flagged quality alerts to reduce non-conformance parts, satisfy customer requirements, improve quality feedback by **73%**

NORR - Architects Engineers Planners

September 2022 – December 2022

Electrical Engineering Intern

Toronto, Ontario

- Conducted site surveys across Sunnybrook hospital wards to extensively document precise site conditions and identify limitations/restrictions as sources of impact, enabling comprehensive project planning and execution
- Compiled and manipulated datasets of **12,000+** rows in **Excel** using library functions and custom built scripts
- Prepared and reviewed project deliverables, contract documents, and shop drawings to ensure adherence to project specifications and maintain corporate quality control
- Collaborated with cross-functional clients to align project schedules and provide consistent updates on project timeline

Magna International Inc - Modatek Systems

January 2022 – April 2022

Manufacturing Engineering Intern

Milton, Ontario

- Resolved over cycle in assembly lines by troubleshooting and making rearrangement of weld IDs, eliminating 2 bottleneck workstations with their cycle time being reduced by 10.1% and 8.9%, respectively
- Determined optimal placement of the bin/rack for easy accessibility and maximum efficiency by analyzing inventory data
- Liaised with the Materials Department to create bin/rack design and developed documentation for **SOPs** and **BOM** data
- Developed an Excel **KPI** dashboard to consolidate data from multiple sources, increasing team productivity

Fade Away Laser Tattoo Removal

March 2020 – April 2020

Electronics Engineering Intern

Kitchener, Ontario

- Designed and prototyped an end-to-end **Arduino** system to automate and simplify the use of cryogenic and laser devices
- Developed **I2C** protocol on Arduino boards, facilitating real-time wireless data transfer between remote devices

Quali AI

January 2020 – February 2020

Electrical Engineering Intern

Kitchener, Ontario

- Designed camera housing models using **SolidWorks** and researched materials and mounts to reduce production cost
- Created a new version of the company website in 2 weeks by self-learning **JavaScript**, **ReactJS**, **HTML**, **CSS**

PROJECTS

Compost Dehydrator | SolidWorks, PCB Design, 3D Printing, Laser Cutting, Manufacturing

September 2023 - Present

- Design and build an automated system that efficiently grinds food scraps, reduce moisture and transform them into a refined powder form for optimal composting in a group of 4

TurtleBot 4 | Gazebo, RoboViz, Python, ROS2

October 2023 - November 2023

- Developed a software stack for the mobile TurtleBot that implemented **OOP** using **Python**, PID controller, A* and RRT* path finding algorithms, and Extended Kalman filter for localization

Search & Rescue Autonomous Robot | Arduino, SolidWorks, 3D printing

January 2023 - March 2023

- Built an **autonomous robot** car that went over a wall using ramp and conducted a search mission in a group of 6
- The robot car weighted 648g and was able to complete the full course in 28 sec, ranked **3rd** out of 21 groups