HOANG VU

📞 604-621-8519 ✉ hoangvukhue@gmail.com in hoangvk ⌂ hoangvk

EDUCATION

University of Waterloo   September 2019 – August 2024
Bachelor of Applied Science in Mechatronics Engineering Honours, Co-op Program   *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, Linux, MS Office, Keil Vision 5, RoboViz

EXPERIENCE

Yanfeng - Yanfeng Automotive Interiors   May 2023 – August 2023
Quality Engineering Intern   *Mississauga, Ontario*
- Developed design verification procedures for component assembly lines, impacting over **100,000** Chrysler Pacifica models
- Created a **VBA** tool to monitor OEM status for annual PPAP revalidation, reduced the backlog of expired documents by **86%**
- Analyzed supplier reject reports and scrap system data to identify defective parts, validating over **$10,000** chargebacks
- Issued quality alerts that reduced non-conforming parts, improved customer satisfaction and quality feedback by **73%**

NORR - Architects Engineers Planners   September 2022 – December 2022
Electrical Engineering Intern   *Toronto, Ontario*
- Conducted site surveys across **240,000+ sq.ft.** of Sunnybrook Hospital, documenting precise conditions and identifying limitations to inform comprehensive project decisions
- Managed and manipulated datasets of **12,000+** rows in **Excel** using advanced library functions and custom-built scripts
- Prepared and reviewed project deliverables, contracts, and shop drawings, ensuring adherence to project specifications and maintaining high corporate quality control standards
- Collaborated with cross-functional clients to align project schedules and provide consistent updates on the project timeline

Magna International Inc - Modatek Systems   January 2022 – April 2022
Manufacturing Engineering Intern   *Milton, Ontario*
- Resolved cycle time issues in assembly lines by troubleshooting and rearranging weld IDs, eliminating 2 bottlenecks and reducing their cycle times by 10.1% and 8.9%, respectively
- Analyzed inventory data to determine the optimal placement of bins/racks, enhancing accessibility and efficiency
- Collaborated with the Materials Department to design bins/racks, and developed 50+ documentation for SOPs and BOM
- Created an Excel **KPI** dashboard, consolidating data from multiple sources to increase team productivity

Fade Away Laser Tattoo Removal   March 2020 – April 2020
Electronics Engineering Intern   *Remote*
- Prototyped an end-to-end **Arduino** system to automate and streamline the use of cryogenic and laser devices
- Implemented the **I2C** protocol on Arduino boards, enabling real-time wireless data transfer between remote devices

Quali AI   January 2020 – February 2020
Engineering Intern   *Kitchener, Ontario*
- Designed camera housings using **SolidWorks**, researching materials and mounts to optimize production costs
- Independently developed a new version of the company website in just 2 weeks, mastering **JavaScript, ReactJS, HTML**, and **CSS** to create a modern and responsive design

PROJECTS

Compost Dehydrator | *SolidWorks, AutoCAD, 3D Printing, Laser Cutting, Machining*   October 2023 - March 2024
- Led a team of 4 in the mechanical design and construction of an automated system to dehydrate food scraps for optimal composting, resulting in a nomination for the sustainability award

TurtleBot 4 | *Gazebo, RoboViz, Python, ROS2*   October 2023 - November 2023
- Developed a comprehensive software stack for a mobile TurtleBot, implementing Object-Oriented Programming **(OOP)** in **Python**, **PID** control, **A*** and **RRT*** pathfinding algorithms, and an **Extended Kalman filter** for precise localization

Search & Rescue Autonomous Robot | *Arduino, SolidWorks, 3D printing*   January 2023 - March 2023
- Devised an autonomous robot capable of overcoming obstacles using ramp and conducting a search mission in a team of 6
- Achieved a course completion time of 28 seconds with a 648g robot, ranking **3rd** out of 21 groups