DANG **NGUYEN (DANNY)**

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Mechatronics Graduate

Linkedin Profile Github Profile Personal Website

ABOUT

I am in the ultimate year of Master of Engineering, at the University of Melbourne. I have more than 1-year of experience in mechanical design as well as software development obtained from getting involved in different projects related to robotics and autonomous systems over my course and internship experience. I consider myself as a 'forever student', eager to both build on my academic foundation in Mechatronics and upskill myself in Computer Science with online courses. I am currently working on my capstone project while also self-learning web development in part-time. I am seeking for opportunities to kickstart my career path in Robotics and Software Development after graduate.

KEY PROJECTS

2019 - 2021, MELBOURNE UNIVERSITY RACING MOTORSPORTS **– THE AUTONOMOUS STEERING SYSTEM – CAPSTONE PROJECT**

- **Designed**, **manufactured** and **maintained** the mechanical and autonomous steering system of the 2021 Electric car.
- Designed and simulated the motor controller in **MATLAB Simulink**.
- Programmed and tuned motor controller in **MoTeC M150 ECU**.
- Carried out data analysis for steering system in MoTeC i2 Pro.
- Gained experience in **CAN communication**, **ANSYS FEA** software package.

2021, UNIVERSITY PROJECT **– AUTONOMOUS WAREHOUSE ROBOT**

- Team lead of a group of 3, worked on designing and developing software pipeline for the 3-wheel robot to perform pick-and-drop cycle task autonomously in a warehouse, using **ROS** library with **C++** and **Python** programming language.
- Developed motion planning and trajectory tracking control of the robot.

2021, PERSONAL PROJECT **– PERSONAL WEBSITE**

- Used HTML, CSS and Javascript to create and implement UI/UX for the personal website.
- Developed basics knowledge in Front-End Web Development

2021, UNIVERSITY PROJECT **– THE CHESS BOT – 4-DOFs ROBOT ARM**

- Team lead of a group of 3, provided guidance and support other team members with their tasks.
- **Designed**, **fabricated** and **tested** the chess bot from scratch.
- Got familiar with **PLA 3D printing** and **tool handling**.
- **Designed** and **simulated task space controller** for the robot arm.
- Created **git workflow** and **developed/maintained source code** for the robot to perform the task using **MATLAB** and **Arduino**.
- Conducted documentation and video presentation for the project.

2018, UNIVERSITY PROJECT **– THE PROSTHETIC ARM PROTOTYPE**

- This project is for **Colombian charity e – NABLE**, during which I managed to process **EMG sensor** signals with programmed **Arduino** to control the DC servo motors, responsible for performing various gestures, resulted in an affordable lightweight prosthetic arm prototype.

EXPERIENCE

12/2020 – 3/2021, INTERNET OF THINGS (IoT) PRODUCT DEVELOPEMT OFFICER – INTERN, AQUATERRA

- Quickly learned new skills and applied them to daily tasks, improving efficiency and productivity.
- Monitored all company inventory to ensure stock levels and databases were updated.
- Responsible for **embedded software programming** in **C++** and testing end-to-end IoT sensor prototypes for field deployment.
- Successfully built and troubleshot existing designs. Produced engineering assembly document of the prototypes and managed Bill of Materials (BOM).

1/2021 – 12/2021, AUTONOMOUS STEERING SYSTEM ENGINEER, MELBOURNE UNIVERSITY RACING MOTORSPORTS

- Worked on Steering Actuator Research for the Autonomous Car.
- Designing and implementing the Autonomous Steering System of the 2021 Electric-car to compete on Formula Student (FSAE-A) competition.
- Worked closely and collaboratively with other sub-teams to achieve the project success and ensure the design complies with standards and requirements for the Formula Student competition.

EDUCATION

6/2019 – 11/2021, Master of Engineering, Mechatronics – THE UNIVERSITY OF MELBOURNE

- WAM – 78.25 (Distinction).

ACTIVITIES

2018, PRESIDENT, INTERNATIONAL VIETNAMESE STUDENTS AT THE UNIVERSITY OF MELBOURNE (IVSUM)

- Support other Vietnamese freshmen of the University of Melbourne, successfully recruited 90 new members during O-weeks in 2018.
- Organized a networking event, Career Talk 2018, for members to gain career insights and to connect with IVSUM alumnus.
- Strategized on event planning and maintaining Vietnamese culture, raised a considerable amount of profit from selling traditional Vietnamese food in Festival of Nations 2018.
- Analysed data and gave strategic direction on event advertising, monitored and organized the 3-day/2-night Winter Camp 2018 for 94 members.

SKILLS & EXPERTISE

PROFESSIONAL SKILLS

- Problem-solving
- Communication
- Interpersonal
- Leadership

DOCUMENTATION

- LaTeX
- Microsoft office: Word, Excel

TECHNICAL SKILLS

- Computer Aid Design: Fusion 360, ANSYS
- Soldering
- Git
- OOP
- C/C++, Python, Java, MATLAB, HTML, CSS, Javascript, JQuery