

An aspiring automation enthusiast doing Masters in Mechatronics Engineering at The University of Melbourne. Experienced in topics of Computer Vision/Machine Learning, Electrical Systems, Mechanics, and programming tools on Python, MATLAB, C++. Passionate about Machine Learning applications in automation and robotics, and have a strong tendency to apply algorithms to real-life problems. Skilled in leading and working with diversified teams, with results-oriented attitude. Seeking opportunities that use programming to enhance machineries.

## EDUCATION

### THE UNIVERSITY OF MELBOURNE

Melbourne, Australia

**Master of Engineering (Mechatronics Systems) - WAM: First Class Honours/High Distinction** July 2021 – December 2023

- Leadership: 1<sup>st</sup> runner-up (2022) and 2<sup>nd</sup> runner-up (2023) in Australian Rover Challenge with UniMelb Rover Team
- Awards: Top performer - Computer Vision (4<sup>th</sup> out of 389 students), Reinforcement Learning (8<sup>th</sup> out of 90 teams)
- Scholarship: Melbourne Graduate Scholarship 2022
- Topics and tools covered: Computer Vision (**OpenCV, Python**); Stats ML/Deep Learning (**PyTorch, TensorFlow/Keras**), Sensors Systems (**MATLAB**), Dynamics, Reinforcement Learning and Game Agents (**Python**), Autonomous Robotics (**ROS, C++, Linux**)

**Bachelor of Science - (Mechatronics Systems/Computer Science) - WAM: Second Class Honours A**

July 2018 – July 2021

- Leadership: Executive Committee of International Vietnamese Students at UniMelb, Student Representative
- Awards: Leadership in Community Awards; Top performer - Machine Learning (1<sup>st</sup> out of 503 students)
- Topics and tools covered: Machine Learning (**Python, JupyterNB, Git**); Symbolic AI (**Python, Git**); Algorithms and Data Structures (**C**); Object Oriented Programming (**Java**); Database Systems (**MySQL**); Computer Graphics (**Git, C#, Unity, HLSL**); Numerical Methods (**MATLAB**); Declarative Programming (**Haskell, Prolog**), Mechanical Systems Design (**Arduino, C++**)

## EXPERIENCE

### CSIRO – Data61

Melbourne, Australia

**Vacation Student + Affiliate**

November 2022 – Present

Australian Government's Renowned Scientific Research Agency, well known for the inventions of Wi-Fi and polymer

- Worked with Digital Human Team, responsible for development process of real-time 3D motion tracker using **Deep Learning** and **Computer Vision**.
- **Won the Best Presentation Award** in the 2023 Summer Vacation Cohort of CSIRO Clayton.
- Currently continuing the work as a Capstone Project with University of Melbourne, forming a connection between CSIRO & UniMelb.

### THE UNIVERSITY OF MELBOURNE

Melbourne, Australia

**Academic Tutor**

March 2022 – Present

Instructing students in the 12-week courses of Computer Vision (COMP90086), Machine Learning (COMP30027 and COMP90049).

- Prepared weekly materials to help students earn practical skills and tackle complex concepts efficiently in **Machine Learning, Computer Vision** and **Natural Language Processing**. This leads to more than 30 feedbacks with positive attitudes toward the subject matter covered in the program.
- Guided more than 450 students per semester through weekly practicals discussing concepts of essential **Python Machine Learning/Computer Vision** tools (**Jupyter Notebook, numpy, pandas, matplotlib, sklearn, tensorflow, pytorch, opencv**).
- Assessed performances of students in **coding ability** and **critical thinking** via course reports and projects, gave concise and effective feedback in a timely manner.
- Finalist for the department's **Tutor of the Year Award** in 2023 (out of 3 candidates).

### ALLMEDIADSK GMBH

Düsseldorf, Germany

A global IT company in the media and advertising industry based in Germany. Operating a platform for users to automatically plan and book campaigns on various media providers.

**Software Development Intern**

September 2021 – May 2022

Developed features for media clients across the world, and improved efficiency of the system.

- Worked in a team of 4 Melbourne developers and communicated with the German headquarters via **Git**, performed **full stack** tasks on the **NodeJS/MariaDB** software system of the company, ensuring that the system is always up-to-date with the clients' request.
- Migrated the system from **jQuery** to **React**, and optimized existing codes with additional algorithms in **JavaScript** and **MySQL** databases, which resulted in faster code organization & speed for more than 50 sections of software.
- Developed more than 5 new major features in **React**, integrating with **MySQL** databases for more than 10 clients across Europe.

## 5F TEAM - WOOLCOCK INSTITUTE OF MEDICAL RESEARCH

Hanoi, Vietnam

Vietnamese branch of the institute in Sydney, NSW, with the focus being on epidemiology and lung diseases.

### Data Analyst

May 2021 – August 2021

Led the construction of the COVID-19 forecasting website in Vietnam.

- Led a team of 3 to build an interactive website that let users define their own inputs to predict COVID-19 statistics from any region using **Python (Dash, NumPy)**, **HTML/CSS**. Was recognised by The Vietnamese Ministry of Information and Communications and many other Vietnamese health authorities and has been featured on **Forbes Under 30 Vietnam 2021** and The 52<sup>nd</sup> World Union Conference on Lung Health. ([Website](#)) ([GitHub](#))
- Improved data collection process of the COVID Modelling team by automating article data retrieval with **Python crawlers** and **Natural Language Processing toolkits**. Reduced the processing time from 2 hours to 20 seconds.

## MINISTRY OF HEALTH

Hanoi, Vietnam

Vietnamese government ministry took the highest responsibility in strategy and planning against COVID-10 pandemic.

### Data Analyst

March 2020 – May 2020

Building a model strategy to forecast COVID-19 under the 'COVID-19 Prevention Project' of Vietnam Ministry of Health.

- Coordinated with 2 researchers to improve data collection efficiency by using **Python web crawler** and **text processing** libraries to extract patient information from government's case announcements. Received an Honoured scientific award from Vietnam Ministry of Health. ([GitHub](#))
- Formulated the situation of COVID-19 in Vietnam by performing data engineering and constructing a system of **Mathematical/Machine Learning models using R, Python**. Resulting in a 95% accuracy rate from minimal training data.

## THE UNIVERSITY OF MELBOURNE

Melbourne, Australia

### Data Engineer / Research Assistant

November 2020 – March 2021

Performed visualisations and information retrieval from the smoke of 2019 Australian bushfires.

- Collaborated with a research team of 8 academics across Australia, led by Professor Andrew Ooi to conduct research on 'Entrainment and Mixing of Gravity Currents in a Stratified Ambient'. Published in '12th Australasian Heat and Mass Transfer Conference'.
- Conducted a simulation of **Computational Fluid Dynamics** using **Blender** and **NEK5000**, creating a trajectory prediction of the 2019 Australian Bushfire smoke. ([GitHub](#))
- Performed numerical data engineering using **Python (Jupyter Notebook, NumPy, xarray)** to evaluate kinetic energy across smoke meshes, identifying their movement pattern across multiple environments.

## MOMO (M\_SERVICE JSC)

Ho Chi Minh City, Vietnam

A Vietnam's FinTech unicorn that offers a mobile e-wallet, and payment application in diversified operating systems.

### DevOps Intern

January 2020 – February 2020

Building an advanced customer advocacy payment system by creating an infrastructure on a hybrid-cloud platform.

- Collaborated with 20 developers in an infrastructure team to contribute to **CI/CD** process of the company using **Ansible** and **Docker**, where 10 additional tasks were automated.
- Arranged an experience journal as a beginner's guide to **Linux**, **virtual machines**, and **system automation**, to use as a guiding documentation ([Website](#)).

## COMMUNITY EXPERIENCE

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## THE UNIVERSITY OF MELBOURNE

Melbourne, Australia

### Subject Representative

Aug 2021 – Nov 2021

Represented more than 600 students to communicate with teaching staff and resolve problems arising among the cohort.

## INTERNATIONAL VIETNAMESE STUDENTS AT UNI. OF MELBOURNE

Melbourne, Australia

### Executive Committee

Aug 2021 – Nov 2021

Hosted and organized more than 10 events for a community of more than 100 Vietnamese students in the university.

## MAZE VIETNAM

Ho Chi Minh City, Vietnam

### Web Content Lead

Nov 2016 - Jul 2018

Led a team of 60+ members across Vietnam on writing travel guides and organizing day trips.

## PTNK PHOTOGRAPHY CLUB

Ho Chi Minh City, Vietnam

### Founder

January 2016 - January 2019

Founded and led a photography community of 40+ high school students.