

Marcus Teo

Ming Xuan

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https://mocuss.github.io/Marcus_Portfolio/

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ABOUT ME

I am a year 3 AI and Data Engineering student in Nanyang Polytechnic with a strong passion towards Artificial Intelligence seeking a university course in the computing and technological industry to bring a positive impact with my skills.

EDUCATION

Diploma in AI and Data Engineering | Nanyang Polytechnic- Singapore **April 2023-April 2026**

CGPA: 3.74

Relevant Coursework: Deep Learning, Machine Learning, Python, Data Preparation and Visualization, Cloud Computing Platform (AWS), Natural Language Processing, Computer Vision

SKILLS

AI: Python, Machine Learning(Scikit-Learn), Deep Learning(CNN, CV, NLP), Reinforcement Learning (MADDPG, PPO).

Data Engineering & Analytics: Pyspark, Pandas, Power BI visualization and dashboarding, SQL

MLOPS/DevOps: Docker, Kubernetes, Kedro

Cloud/ AI Tools: AWS, Azure

IoT & Robotics: ROS2 simulations, Raspberry Pi, Arduino

Web Development: HTML, CSS, Flask, React Native etc.

WORK EXPERIENCE

Retail Assistant

December, 2022– February, 2023

NTUC Fairprice– [Toa Payoh]

Retail Assistant in FairPrice, assisting the customers by restocking any empty shelves with products so that customers are able to find the items they want.

AI Intern @ AETHER by RAiD

September, 2025– February, 2026

AETHER by RAiD- [SUTD]

Researched and worked on a Multi Agent Reinforcement Learning gymnasium and Agents for drone navigation, target following and obstacle avoidance on an Unreal Engine simulations.

Focused on developing and debugging the environment using ros2 and unreal engine, as well as developing a MADDPG model.

Core modules: ROS2, Multi Agent Reinforcement Learning, Unreal Engine

CERTIFICATIONS

Outstanding Contribution in Co-curricular Activity Award (Infocomm Technology) |
Beatty Secondary School

April 2022

Certificate of Completion | Fundamentals of Deep Learning- NVIDIA

January 2025

AI900 Azure Fundamentals | Microsoft

January 2025

Associate AI Engineer | AI Singapore

September 2025

COMPETITIONS

NUS Maritime Hackathon

January 2025

Created a solution for the maritime industry, using Just In Time arrivals to reduce carbon emissions in a tight 1 day timespan. Created analysis for hard to understand data.

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COMPETITIONS

HacX! Hack For Public Safety

September 2025-October 2025

Created a classification model with explainability functions that can identify haze and smoke using satellite imagery with an accuracy of 93%. Collaborated in a team to design, implement and demo a working prototype at HacX.

LEADERSHIP & INVOLVEMENTS

Infocomm Club-Beatty Secondary School – Vice Chair-man

May 2021- June 2022

My role was to lead my team in events such as Chinese New Year concerts or Annual Award Ceremonies. I trained juniors on how to set up equipment. I was in charge of Annual Awards, a major event in the school. However, there was a lack of resource, such as manpower and time for the CNY event.

SEG Club- Nanyang Polytechnic- Subcommittee

June 2023-June 2025

Helped with multiple events such as I-Appreciate, Freshman Orientation, Open House etc.

Notable events: Worked as the Welfare IC for Freshman Orientation 2024. Job role included testing games and going for facilitator training. Helped ordered snacks, create RAMS, and ensure that everyone is not injured.

PROJECTS

LeafSense– Computer Vision Project | Nanyang Polytechnic

December 2024-January 2025

- Trained a densenet121 CNN model to identify plant diseases with leaf images with an accuracy of 99%.
- Added OpenCV image pre-processing step (HSV + Erosion) to remove background and reduce noise.
- Deployed an intuitive Flask app with HTML and CSS where users can upload image and receive predictions.

Singapore Tourism Analysis- Data Preparation & Visualization Project | Nanyang Polytechnic

July 2024- August 2024

- Analyzed Singapore tourism (2008–2023) using public datasets (arrivals, receipts/spending, hotel stats, demographics) to identify what drives higher tourist spend and recovery trends.
- Built interactive dashboards and visuals with Power BI. Using filters, trends, scatter plots to study demographics
- Cleaned, standardized and reshaped data for consistent analysis

Defector Detector

December 2024-January 2025

- Built a CV object detection system to spot defects in injection molded parts with Azure Custom Vision
- Self made dataset with data augmentation
- Deployed with a Flask App with HTML + CSS for real-time detection
- Power BI dashboard for logging and monitoring purposes

Skywatch

December 2024-February 2025

- Built a low cost IoT weather station that collects temperature, moisture and clouds images with a Raspberry pi processor
- Data uploaded to google sheets, and sent to Looker Studio dashboards and Blynk app for visualization
- Identified cloud features using K-means sky masking,. HSV stats and edge detection metrics to utilize cloud data.