JUN JET TAI

LinkedIn | Github | Website | Google Scholar

CORE SKILLS

- **Deep Learning:** Reinforcement Learning, Computer Vision, Uncertainty Quantification, Generative Modelling.
- **Robotics:** SLAM, Sensor Fusion, Electronics and Mechanical Design, Communication Protocols.
- **Languages and Frameworks:** PyTorch, TF 2.0, WandB, Python ML Stacks (NumPy, Sklearn, Pandas, etc.), C/C++, C#, Matlab, Go, Rust, Docker, CI/CD, SQL, MATLAB, PX4, ArduPilot, ROS, Dronekit, Arduino.
- **CAD Software:** SolidWorks, EasyEDA, EagleCAD, Onshape.

EXPERIENCE

June 2024 – Present **Research Intern, Sony AI**
- Working on vision-based GT Sophy.
- Improved existing architecture to speed up training by 4x and reduce time-trial score by >10 seconds.
- ***Technologies:*** *Distributed Asynchronous Reinforcement Learning*

Oct 2023 – May 2024 **Machine Learning Engineer (Contractor), Eluve**
- Engineered AI Medical Assistants with LLMs (Under NDA).
- ***Technologies*****:** RAG, HF Transformers, Pydantic, SQLAlchemy

Mar 2022 – Jan 2023 **Principal Maintainer of PettingZoo and SuperSuit, Farama Foundation**
- Led development of top multi-agent RL libraries, 40k+ monthly downloads.
- Coordinated team of 10+ developers, contributed 60+ PRs, merged 100+.
- Worked on Gymnasium and Robotics, responsible for sparse reward and domain randomized environments.
- Co-authored Shimmy – interfacing our APIs with DMControl, OpenSpiel, MeltingPot and more.
- ***Technologies:*** *Reinforcement Learning Environments, API Design, CI/CD Automation*

Mar 2020 – Aug 2020 **Simulation Engineer, Swisslog Malaysia Sdn. Bhd.**
- Co-developed warehouse automation simulation tools with Emulate3D.
- Trained successors before pursuing a PhD.
- ***Technologies:*** *Warehouse Logistics Design, Emulate 3D, C#*

Aug 2018 – Dec 2019 **Research Assistant, Taylor's Unmanned Aerial Vehicles Research Group**
- Led team trainings, developed obstacle avoidance and navigation algorithms for UAVs (2 papers published).
- Helped develop vision-based target tracking for UAVs using Siamese Net inspired architecture.
- Designed custom middleware for UAV, enabling 3 other projects.
- ***Technologies:*** *UAV Obstacle Avoidance and Navigation, Computer Vision, ROS, PX4, MATLAB*

Jan 2019 – Mar 2019 **Software Engineering Intern, Fourfang Sdn. Bhd.**
- Developed landing algorithm for 5 kg Venus UAV, used in a 24/7, automated infrastructure.
- ***Technologies:*** *UAV Power Systems, CAD, Dronekit, Ardupilot, C++, MATLAB, Simulink*

EDUCATION

2020 – Present **PhD in Artificial Intelligence and Engineering – Coventry University, UK**
Topic: Autonomous AI Enabled Drones for Predictive Maintenance

2016 – 2020 **Bachelor of Engineering (Honours) Mechanical Engineering – Taylor's University, Malaysia**
CGPA 3.92/4.00

NOTABLE PROJECTS

PyFlyt – UAV Flight Simulator for Reinforcement Learning Research
- A library for researching reinforcement learning algorithms on UAVs,> 70k downloads.

CrazyFlyt – Crazyflie 2.x Swarming Controller
- A library for swarming Crazyflie 2.x UAVs with a flexible software/hardware interface, built using PyFlyt.

SAMTool – Semantic Segmentation Dataset Creation Tool
- A tool for rapidly creating semantic segmentation datasets using the Segment Anything Model by Meta.

RIDS – UAV Remote ID Spoofer on ESP8266
- 16 fake UAV Remote IDs in the air all flying in random directions, featured in various videos .

Wingman – A Horizontally Integrated Library for Managing Hundreds of AI experiments At Once
- ML experiments tracking/saving. >18,000 experiments totaling >100,000 hours of training tracked in one year.