L. T. MINH TRINH

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EDUCATION

University College London — London, United Kingdom
MEng in Mechanical Engineering — *Sep. 2023 - Present*

- Grade: First Class Honours (on track)
- Extracuricular: UCL Racing - Mars Rover team, Mechanical Engineering Society, AI Society, Fintech Society.

The National Mathematics and Science College - A-Level — Coventry, United Kingdom
A-Level — *Sep. 2021 - Jul. 2023*

- Grade: A*, A* and A (respectively in Maths, Further Maths and Physics)
- Awarded full academic scholarship (135% tuition) for consecutive years of A-Level.

WORK EXPERIENCE

Autonomous an Control Engineer — London, United Kingdom
UCL Racing - Mars Rover team — *Oct. 2023 - Present*

- Developed computer vision systems for a Mars rover in the European Rover Challenge (ERC). Fine-tuned CNN models (85% Mars rover classification accuracy) and built a marker-detection algorithm for collision avoidance, integrated into the rover's autonomous navigation stack.
- Implemented rover mobility and robotic arm control interfaces, gaining hands-on experience in hardware–software integration and laying the foundation for autonomy development.

Research Intern — Hanoi, Vietnam
FPT Software — *Jun. 2024 - Aug. 2024*

- Designed and simulated a 6DOF robotic arm, implementing inverse kinematics for precise motion control and pick-and-place operations.
- Developed a ROS2–Isaac Sim framework integrating camera-based object detection (ResNet50) with 3D coordinate estimation, enabling automated pick-and-place tasks in simulation.

PROJECTS

Summer Research — London, United Kingdom
Metacognitive Sensitivity for Test-Time: Dynamic Model Selection — *Jun. 2025 - Aug. 2025*

- First-author summer research on reinforcement learning and metacognition.
- Designed a contextual multi-armed bandit framework leveraging pre-trained model confidence as metacognitive feedback, improving accuracy by 10% on image classifiers and ∼2% on vision–language models; results submitted to NeurIPS 2025 Workshop.

Independent Research Project — London, United Kingdom
Adaptive Multi-Horizon Strategy Selector with Meta-RL — *Aug. 2025 - Present*

- Implemented baseline trading strategies and extended them into a hierarchical RL system with regime detection, achieving Sharpe ratio of 1.2 and 25% outperformance vs. buy-and-hold in backtests.
- Currently replacing individual strategies with RL agents; next phase integrates MAML for rapid adaptation to shifting market regimes.

TECHNICAL SKILLS

Languages	Python, MATLAB, C/C++, SQL
Tools	Fusion 360, Microsoft Excel, Git, Linux
Frameworks	Pytorch, TensorFlow, Huggingface, ROS2, Conda, Docker, Scikit-learn, Pandas