Chenhe (Trevor) Liu

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Education

The University of Melbourne — Expected June 2026
Bachelor of Science, Computer Science — GPA: 87.9 of 100 (First Class Honours)
Chinese University of Hong Kong — January 2025 – May 2025
Exchange Student — GPA: 3.63 of 4 (90.75%)

Relevant Skills

Python, Java, C, Django: 3+ years of experience; completed 5+ projects
Machine Learning, Reinforcement Learning, PyTorch, SUMO: Applied in autonomous vehicle routing research for 200+ simulated agents
Database, SQL, Frontend, Backend, Mini Program: Developed industry applications improving workflow efficiency
Data Structures, Algorithm Design, Computer Vision, Android App Development: Applied in personal projects

Research Experience

Undergraduate Researcher, The University of Melbourne — July 2025 – November 2025
Supervisor: Dr. Farhana Choudhury, The University of Melbourne

- Optimized autonomous vehicle parking strategy for a network of 1,000+ vehicles and 200+ agents.
- Designed a routing strategy with deep reinforcement learning to mitigate congestion caused by parking-substitute cruising (vehicles cruising empty instead of parking) while ensuring timely service.
- Developed a novel strategy with improved flexibility, personalization, and reduced reliance on top-down managerial policy compared to existing solutions in parking-substitute cruising congestion optimization. The proposed model achieved average speed improvements of 25.30% and 16.94% over baseline and comparator methods.

Professional Experience

Data Analyst, Geely Baikuang Group, China — May 2025 – July 2025

- Executed database operations on 2,000,000+ records, including data extraction, cleaning, and maintenance, ensuring accurate, organized, and secure data management.
- Prepared and presented data analysis reports to managers, translating technical insights into actionable recommendations.
- Conducted data mining and visualization to identify business trends and support managers in data-driven decision-making.
- Developed automation scripts, a web application, and a mini program to improve system efficiency and streamline workflows.

Publication

Liu, C. & Choudhury, F. (2025). *Parking-Substitute Cruising Strategy Optimization: Reducing Congestion with Deep Reinforcement Learning.* 11th International Conference on Vehicle Technology and Intelligent Transport Systems (VEHITS 2025). [Manuscript in progress, expected submission: November 2025]

Projects

CS229 Lecture Notes Summary: CS229 is a math-intensive machine learning course from Stanford that provides comprehensive official lecture notes. This summary distills the key concepts into a concise and accessible format, making it easier to understand and review.
C5-LML: Led and collaborated with a 3-member team to build a web-based community platform, enabling gamers to explore rankings, view detailed profiles, and engage in strategy discussions.
LearnLeague: Led and collaborated with a 3-member team to develop LearnLeague, a mobile app gamifying online learning through personalized study plans, leaderboards, and community engagement.