ZIKANG (LUKAS) CHEN

+44 7498 301069 | mail@lukasmp.com | github.com/lcczk | linkedin.com/in/lukaschen

EDUCATION

University of Manchester **September 2026 - September 2027**

- MSc Robotics

University of Edinburgh **September 2022 - July 2026**

- Artificial Intelligence & Computer Science BSc — 1st Class with Honours
- Dissertation: Sim2Real Gap in Reinforcement Learning for Robotic Contact−rich Manipulation

TECHNICAL SKILLS

Languages	English (Fluent), Chinese (Native), Cantonese (Native)
Programming Languages	Python, C++, C, Java, JavaScript, SQL, MIPS, PDDL, Haskell
Technologies/Frameworks	Linux, Docker, Git, MATLAB, Fusion, TensorFlow, ROS 2, MuJoCo, Isaac Sim, PyBullet, NumPy, PyTorch, SKRL, React, Spring, Redis, Kafka

EXPERIENCE

The University of Edinburgh **Edinburgh, Scotland**
Teaching Assistant ***January - April 2026***

- Delivered guest lectures and tutorials on **ROS 2** development to 30+ students.
- Designed and graded coursework on **particle filters**, providing individual feedback on implementation.

Summer Research Intern, IPAB ***June - September 2025***

- Reconstructed 3D point-cloud maps from real **LiDAR** and **IMU** sensor data using **LIO-SAM**. Gained hands-on experience with real-world **SLAM** pipelines.

ACTIVITIES

Edinburgh University Formula Student (EUFS) **Edinburgh, Scotland**
Software Developer ***September 2022 - July 2026***

- Core contributor to the society's **ROS**-based autonomous driving system. Achieved 1st-place in the AI division at Formula Student UK for three consecutive years (2023-2025).
- Led 8 developers on the **Localisation & Mapping** sub-team, running weekly stand-ups, code reviews, and sprint planning in an Agile workflow.
- Implemented state estimation algorithms (**FastSLAM, EKF, Particle Filter**) for real-time vehicle localisation.
- Cut code review time by 50% by building **CI/CD pipelines** that automated container builds, unit tests, integration tests, and linting.

PROJECTS

- **MuJoCo MCP:** MCP server that exposes gym-like API as skills for LLM agent to interact with physics simulations.
- **Robotic Sim2Real for Non-Prehensile Manipulation** (Dissertation, supervised by Prof. Sethu Vijayakumar): Trained **RL** agents for non-prehensile manipulation in **MuJoCo** and **Isaac Sim**. Developed pipelines for multi-simulator training. Research how the structure of dynamics model affects **Sim2Real transfer**.
- **LLM-Powered SQL Query Interface:** A natural-language database query interface. Integrated LLM with PostgreSQL via a MCP server.
- **Auto-Irrigation System:** A Raspberry Pi system integrated soil-moisture sensors, and electric valve. Script that triggers watering when moisture drops below a configurable threshold.
- **REST API for Drone Delivery:** A **REST API** handling requests for a drone delivery application.
- **Q-Learning Path Planner:** Implemented a **Q-learning** agent for path planning in 2D grid worlds, with reward shaping and epsilon-greedy exploration.