Yuxiao Zhu

+1 (919) 423-0128 | Durham, NC | yuxiao.zhu@duke.edu | tcxm.github.io

Education

Duke Kunshan University Kunshan, China
Bachelor's of Computer Science *Aug 2023 — May 2027*

- Cumulative GPA: 3.78/4.0 | Dean's List with Distinction
- Relevant Coursework: Artificial Intelligence, Algorithm Design and Analysis, Operating System, Computer Architecture, Computer Organization and Programming, Computer Network Architecture, Formal Languages and Automata

Duke University Durham, NC
Exchange Student *Jan 2026 — May 2026*

Publications

- **Y. Zhu**, J. Chen, X. Zhang, M. Guo and Z. Li, "DEXTER-LLM: Dynamic and Explainable Coordination of Multi-Robot Systems in Unknown Environments via Large Language Models," 2025 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Hangzhou, China, 2025, pp. 10182-10189, doi: 10.1109/IROS60139.2025.11247301.
- J. Chen, **Y. Zhu**, X. Zhang, B. Luo and M. Guo, "SLEI3D: Simultaneous Exploration and Inspection via Heterogeneous Fleets Under Limited Communication," in IEEE Transactions on Automation Science and Engineering, vol. 23, pp. 2339-2360, 2026, doi: 10.1109/TASE.2025.3643166.
- X. Zhang, J. Chen, **Y. Zhu**, B. Luo and M. Guo, "CoCoPlan: Adaptive Coordination and Communication for Multi-Robot Systems in Dynamic and Unknown Environments," in IEEE Robotics and Automation Letters, vol. 11, no. 3, pp. 3270-3277, March 2026, doi: 10.1109/LRA.2026.3656769.
- J.Chen, **Y. Zhu**, A. Zhuo, X. Zhang, S. Zhang, G. Weng, X. Dong, M. Guo, Z. Li, "Melding LLM and temporal logic for reliable human-swarm collaboration in complex environments," in npj Robotics (Under Review).

Research Experience

2025 Summer Research May 2025 — Aug 2025
School of Advanced Manufacturing and Robotics, Peking University *Beijing, China*

- Supervised by Prof. Meng Guo and Prof. Zhongkui Li
- Propose a formal method and LLM framework for coordinating large fleets of heterogeneous robots in open and dynamic environments;
- Propose CoCoPlan, a collaborative framework addressing communication-aware task planning for multi-robot systems under intermittent connectivity constraints.

2024 Summer & Winter Research May 2024 — Jan 2025
School of Advanced Manufacturing and Robotics, Peking University *Beijing, China*

- Supervised by Prof. Meng Guo
- Propose DEXTER-LLM, a framework integrating LLMs with MILP optimization for dynamic task planning and coordination for heterogeneous multi-robot systems in unknown environments.
- Propose SLEI3D, a framework for large-scale 3D exploration, inspection, and interaction using heterogeneous robotic fleets (UAVs/UGVs) under limited Line-of-Sight (LOS) communication, which addressed challenges of dynamic task allocation and intermittent communication in unknown environments.

Projects

Leader, Development for Cooperative Aerial Robots Inspection (CARI) System Apr 2024 — Apr 2025

- National College Student Innovation & Entrepreneurship Training Program (Dachuang), Project ID: 202416406003K

Skills and Awards

- **Awards**: First Place in the 1st Duke Kunshan University DeepRacer Self-driving Competition
- **Skills**: ROS (Robot Operating System), Robot Hardware, Python, C++, Basic Knowledge of Machine Learning, 3D Modeling, Game Engine, Other Computer Basic skills (Linux, Git, etc.)