Chenyu Zhu

Portfolio: https://zhu-chenyu.github.io/

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Education

- **Northwestern University** — *Evanston, IL*
  Master of Science in Robotics — *Sept. 2025 – Dec. 2026*
- **University of California, Berkeley** — *Berkeley, CA*
  Exchange Program — *Jan. 2024 – Jun. 2024*
- **Southeast University** — *Nanjing, China*
  Bachelor's Degree in Automation — *Sept. 2021 – Jun. 2025*

Skills Summary

- **Programming Languages**: Python, C, C++, Assembly Language
- **Skills**: ROS2, Linux, Git, Parallel Computing, Path Planning, MATLAB, Simulink, Excel
- **Languages**: English (Professional), Mandarin (Native), Japanese (Basic Communication)

Internship Experience

- **Intuitive Surgical** — *Jun. 2024 – Aug. 2024, Shanghai China*
  - Operated the Da Vinci System's daily startup/shutdown, troubleshooting in engineering interface.
  - Conducted experiments to obtain cooling curves for different scalpels, then fit into functions.
  - Prepared daily setups, operated robot, and maintained data logs for 600+ times of tests.
- **General Electric's Healthcare Wuxi Factory** — *Jun. 2023 – Aug. 2023, Wuxi China*
  - Designed, coded, and controlled a competition robot from scratch, finishing all tasks in two weeks and achieving 3rd place among 10 teams.
  - Wrote and debugged programs for PCI control on PC devices.
- **Cryofocus Medtech** — *Jun. 2022 – Sept. 2022, Shanghai China*
  - Implemented PI control to enhance precision by 12% of a cryogenic flow regulator.
  - Collaborated in designing a digital-to-analog converting chip.
  - Assisted in user-interface design and user-experience refinements for a cryogenic flow generator.

Projects

- **Picking Up a Pen Using Robot Arm and RealSense Camera** — *Sept. 2025 – Sept. 2025*
  - Coded a robot arm to locate a pen with a separate camera, then pick it up and drop it in a box.
  - Planned collision-free paths around obstacles; finished in 2 days.
- **Sensor Node Simulation and Network Topology** — *Jan. 2024 – May. 2024*
  - Built a Simulink model from scratch to simulate sensor and transmission nodes, achieving 77% overall accuracy while tackling communication concepts for the first time.
- **Hybrid Electric Vehicle Torque Distribution Study** — *Sept. 2023 – Jan. 2024*
  - Built a simulated hybrid vehicle for commute and long-distance scenarios.
  - Optimized torque-coupler logic, increasing mileage by 74% and reducing emissions by 12%.
- **Mobile Robot Spatial Positioning** — *Oct. 2022 – Oct. 2023*
  - Integrated laser SLAM with computer vision for forklift navigation.
  - Boosted algorithm accuracy by 126% and improved efficiency/response by 43%.
  - Reduced manual labor by over 60% via automation solutions.
- **Directional Horizontal Drilling Rig Guidance System** — *Oct. 2022 – Oct. 2023*
  - Implemented magnetic-signal communication and an obstacle-avoidance vehicle.
  - Contributed to ground-device development for the drilling rig guidance system.

Patent

- **Saccule folding mechanism, CN 220988900 U**: A structure designed to fold a balloon after inflation for medical treatment in blood vessels. Filed: 2024.05.24.
  URL: https://patents.google.com/patent/CN220988900U/en