Jingbo Zhang

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EDUCATION

Carnegie Mellon University Pittsburgh, PA
Master of Science in Mechanical Engineering May 2026
GPA: 4.0/4.0
Featured Coursework: Modern Control Theory, Robotics Dynamics & Analysis, Electromechanical System Design, Introduction to Machine Learning, Robot Localization and Mapping, Advanced Control Systems Integration

Carnegie Mellon University Pittsburgh, PA
Exchange Program in Mechanical Engineering Aug 2023 - May 2024
Featured Coursework: Feedback Control System, Optimal Control & Reinforcement Learning, Product Design, Dynamic System Control, Introduction to Computer System

Shanghai Jiao Tong University Shanghai, China
Bachelor of Engineering Jun 2024
GPA: 3.65/4.0
Featured Coursework: Modeling Analysis & System Control, Introduction to Robotics, Design & Manufacture, Numerical Method, Fundamentals of Computer Vision, C++ Programming, Data Structure

SKILLS

Languages: C, C++, Python, MATLAB, Julia, Assembly, CMake
Software: ROS, Rviz, Gazebo, SLAM, Pytorch, OpenCV, CMake, Git, Linux, Simulink, Julia, Webots, CAD (Solidworks, Autodesk Fusion, NX), Arduino, Optitrack, Origin
Hardware: Laser Cutting, 3D Printing, Woodwork, CNC Machining, Circuit Construction and Design

WORKING & RESEARCH EXPERIENCE

Legged Control, Robomechanics Lab, Carnegie Mellon University Sep 2024 – Now
Graduate Researcher Pittsburgh, PA

- Developing a multi-timescale adaptation framework to improve the robustness and adaptability of quadruped robots in novel environments, such as sand and tall vegetation
- Implementing a reinforcement learning-augmented Model Predictive Control (MPC) strategy to enhance locomotion stability and efficiency under unforeseen terrain conditions, payload variations, joint degradation, and external disturbances.

Seagate Technology May 2025 – Aug 2025
Advanced Control & Embedded Engineer Inter Shakopee, MN

- Conducted algorithm improvement & validation for an upcoming innovative methodology in HDD control.
- Created and developed a Simulink model for the full drive for easier preliminary design and test.
- Designed and completed a GUI using MATLAB for design and failure analysis of HDD control.

Advanced Micro-Fabrication Equipment Inc. Jun 2023 - Aug 2023
Control Engineer Intern Shanghai, China

- Developed an LQG algorithm to a given strongly coupled dynamic system, which is a 4 inputs and 4 outputs first-order plus time-delay model, for temperature control of etching machines.
- Improved control performance by reducing overshoots by 2.83%, and settling time by 2.12%, compared to the legacy decentralized Proportional-Integral-Derivative (PID) controller.
- Reduced the controller commission cost by the systematical design methodology, which was extensively verified by both numerical simulation and in-field tests.

Shanghai Electric KSB Nuclear Power Pump Valve Co., Ltd. Jun 2022 - Aug 2022
CAD Engineer Intern Shanghai, China

- Completed CAD modeling and manufacturing drawing of a reactor coolant pump (including body, cover, shaft, motor, frame, impeller, guide vane) to aid in the development and testing of a pump for localization.
- Participated on the SEC-KSB localization team and completed CAD modeling and manufacturing drawing of a RUV (wet winding motor reactor coolant pump: CAP1400)

ACADEMIC PROJECTS

Seamless Gait Transition via Optimal Control & Reinforcement Learning Pittsburgh, PA
Carnegie Mellon University Jan 2024 – May 2024

- Applied TVLQR to a quadruped robot for gait transitions while tracking RL generated trajectory references.
- Reached seamless gait transitions within 1.8s between trot, pace, and gallop.

Remote Driving Contactless Logistics Platform for Epidemic Scenarios Shanghai, China
Shanghai Jiao Tong University Jun 2022 – Oct 2023

- Designed and implemented a visual assistance system for remote driving based on Robot Operating System (ROS) via C++, achieving real-time display of driving trajectory prediction on the screen.
- Managed the team as the team leader, and the project was recognized as national level (highest level) by China.