

Qian Chen

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EDUCATION

Zhejiang University - UIUC Institute, Undergraduate Student 2023.09–2027.06 (Expected)
Zhejiang University *B.S., Mechanical Engineering* GPA: 3.83/4.0 (first 5 sem.); Rank: 6/56
University of Illinois Urbana-Champaign (UIUC) *B.S., Mechanical Engineering* GPA: 4.0/4.0 (first 5 sem.)
Coursework: Mechanical System Dynamics, Solid Mechanics, Engineering Materials, Thermodynamics, Fluid Mechanics, Mechanical Design, Signal Processing, Analog Circuits and Systems, Statistics and Probability
Research Interests: Robotics, Embodied Intelligence, Automation Control

PERSONAL STATEMENT

Mechanical engineering undergraduate with strong academic performance, self-motivation, teamwork awareness, and English communication skills. Through projects in robot mechanical structure design and reinforcement-learning-based motion control, I have developed integrated capabilities from mechanism implementation and simulation modeling to experimental validation. In graduate studies, I hope to further focus on embodied-intelligence robotics and automation control, exploring perception, decision-making, and motion control methods for robots in complex environments.

RESEARCH / PROJECT EXPERIENCE

Deep Reinforcement Learning for Omni-Wheel Biped Locomotion on Complex Terrain (Advisor: Hua Chen, ZJUI) 2026.01–Present

- Studied RL locomotion code structure, training workflow, and control framework for omni-wheel biped robots on complex terrain.
- Configured simulation environments and reproduced PPO policies with IsaacLab and MuJoCo Playground, implementing the full workflow from simulation training and sim-to-sim validation to sim-to-real deployment.
- Analyzed robot models, observation spaces, reward functions, and deployment results to understand terrain-adaptive learning-based locomotion control.

Mechanical Design and Optimization for RoboMaster Competition Robots (Advisor: Jiahuan Cui, ZJUI) 2024.04–2026.04

- Participated in robot mechanical design for chassis stability, projectile-feeding reliability, and power-module protection in RoboMaster competitions.
- Used SolidWorks and Fusion 360 to redesign suspension connectors and select suspension components based on an open-source chassis, improving stability, assembly feasibility, and maintainability.
- Redesigned the magazine, feeding-dial, and supercapacitor mounting/protection structures; completed part fabrication and assembly validation through 3D printing, CNC, and laser cutting.

Automated Micro-Feeding Device for Timed and Quantitative Single-Fly Feeding (Advisor: Timothy Haw-Yu Lee, ZJUI) 2026.02–2026.04

- Designed CAD models, mechanical structures, and complete fabrication for timed, quantitative micro-feeding in single-fly culture.
- Optimized moving-component layout and actuation for space efficiency, assembly convenience, and stable feeding experiments.

Magnetic-Field-Assisted 3D Printing and Fabrication/Actuation Optimization of Grooved Flexible Actuators (Advisors: Peng Zhao and Chengqian Zhang, School of Mechanical Engineering) 2024.06–2024.08

- Used SolidWorks to design groove-parameter experiments and COMSOL to support magnetic-field simulation design, quantifying the effects of groove length, width, and height on actuator deformation.
- Programmed an Arduino Mega controller for a 2D Helmholtz coil system with real-time 0–50mT field control.
- Combined stereolithography 3D printing with magnetic-field setup, optimized magnetic-powder ratio and UV-curing time, and validated opening-closing, rolling, and slope-climbing motions.

HONORS

Second Prize and Third Prizes, RoboMaster University League Shanghai Regional (Principal Team Lead) 2024–2026
Scholarships: Second and Third Prizes, Zhejiang University; Third Prize, ZJU-UIUC Institute 2024, 2025
Third Prize, 5th Zhejiang University Student Concrete Dragon Boat Competition (Captain) 2024
S Award, Mathematical Contest in Modeling 2025
Dean's List of Grainger Engineering, UIUC Fall 2025
5th Place Team, ZJU Three-Good Cup Table Tennis (Core Player) 2023, 2024

TEACHING ASSISTANT EXPERIENCE

Teaching Assistant, Zhejiang University 2026.01–2026.06
Introduction to Solid Mechanics Instructor: Ye Shi
Introductory Fluid Mechanics Instructor: Jiahuan Cui

SKILLS

Hardware Skills: Fusion 360, SolidWorks, COMSOL, 3D printing
Programming: Python, MATLAB, Arduino, LaTeX
Languages: CET-6: 546; TOEFL: 5.5/6