

Xilin Zhang

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Education

Carnegie Mellon University	Aug 2024 – Present
<i>MS in Mechanical Engineering - Robotics and Control Systems</i>	
◦ GPA: 4.0/4.0	
◦ Coursework: Robot Learning, Optimal Control, Reinforcement Learning, Computer Vision, C++	
Tianjin University	Sept 2020 – Jun 2024
<i>Bachelor of Engineering in Mechanical Design, Manufacture and Automation</i>	
◦ GPA: 3.72/4.0	

Publications

- Zhang, X., Tian, W., Huo, M., **Zhang, X.** (2023). Kinematic Calibration of Stable Platform Based on Joint Space Configuration Optimization. *Journal of Tianjin University (Science and Technology)*. DOI: 10.11784/tdxbz202209021
- Zhang, X., Tian, W., Zhao, K., Wang, L., **Zhang, X.** (2022). Kinematic Calibration of 3-UPS/S Stabilized Platform Based on RBF Neural Network. *Journal of Tianjin University (Science and Technology)*. DOI: 10.11784/tdxbz202206006

Projects

Research Assistant, Carnegie Mellon University, Robotics Institute	Aug 2024 – Present
◦ Vision-based Grasping System with GraspNet	Jul 2025 – Aug 2025
Developed a grasping system integrating a ZED stereo camera with an xArm robotic arm. Applied GraspNet for grasp pose prediction and validated on real multi-object grasping tasks.	
◦ Visual Servoing with ROS2	Aug 2025– Aug 2025
Built a ROS2-based visual servoing system with ZED and xArm. Achieved real-time ArUco marker tracking and improved trajectory stability through closed-loop control.	
◦ TriFinger Platform with Proprioception	May 2025 – Present
Implemented a TriFinger manipulation platform in MuJoCo with impedance control. Integrated proprioception and force estimation to enhance precision and Sim2Real robustness.	

Research Assistant, Tianjin University, Mechanical Engineering	Mar 2023 – May 2024
◦ Kinematic Calibration of a Stabilized Platform	Dec 2022 – Jun 2023
Modeled error sources and optimized joint configurations for a shipborne stabilized platform. Improved stability and reliability through calibration and experiments.	
◦ Innovative Design of a DBS Neurosurgical Mechanism	Jun 2022 – Jun 2023
Designed and prototyped a novel deep brain stimulation mechanism. Completed 3D modeling, dynamic analysis, and prototype validation for neurosurgical applications.	

Experience

Industrial Robot Engineer Intern	Shenyang, China
<i>Siasun Robot & Automation Co., Ltd.</i>	June 2023 – July 2023
◦ Contributed to the design and verification of industrial robotic arms adaptable to multiple environments.	
◦ Performed structural strength analysis and developed control programs, enhancing system stability and application scalability.	

Skills

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- Languages:** C++, Python, MATLAB
- Tools:** Solidworks, Fusion, PyTorch, OpenCV, ANSYS, ROS2