

YONGZHE(KINDRED) YI

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EDUCATION

- **University of Wisconsin-Madison** *Madison, United States*
Bachelor of Science, Computer Science Department *Expected May 2026*
Advisor: Prof. Bilge Mutlu

RESEARCH INTEREST

My research sits at the intersection of Human-Robot Interaction (HRI) and Robot Learning. I am driven to design intelligent robotic systems that can effectively learn from their interactions with humans. My current work explores how recognizing human intent can facilitate complex bimanual dexterous manipulation.

PUBLICATIONS (* denotes equal contribution)

- **Coordination-Aware Shared Control for Bimanual Dexterous Teleoperation**
Yongzhe (Kindred) Yi, Mike Hagenow, Bilge Mutlu.
Under review at IEEE/RSJ IROS 2026. [\[Paper\]](#) [\[Code\]](#)

RESEARCH EXPERIENCE

- **Undergraduate Researcher**
People and Robots Laboratory, University of Wisconsin-Madison
Advisor: Prof. Bilge Mutlu
- **NSF HAND Engineering Research Center (ERC)**
 - * Built a **VR-based teleoperation system** for dual Franka arms and Tesollo hands, implementing custom IK solvers and **real-time retargeting** to map human hand motions to dexterous hands.
 - * Proposed a coordination-aware **shared control framework** that models **bimanual interaction** patterns during teleoperation. Designed and trained an **LSTM-based classifier** to recognize coordination modes in real time and adapt impedance control parameters to enforce physically consistent behaviors.
 - * Co-developed an **LLM-based interface** to map natural language commands to predefined manipulation primitives, with basic **vision-language grounding** using RGB-D perception.
- **Robotic Grasping Experiments with Franka Emika Panda**
 - * Conducted robotic grasping experiments using `franka_ros`, `libfranka`, and Relaxed IK in a ROS1 environment.
 - * Evaluated grasping accuracy on the NIST benchmark by integrating and testing predefined motion planning and inverse kinematics solutions.

INDUSTRY EXPERIENCE

- **MiiVii Dynamics** **Jun 2023 – Sep 2023**
Beijing, China
Software Testing Engineer Intern
 - Proficient in Unix command line operations and automated testing, with experience in writing test scripts using Robot Framework to replace repetitive manual testing.
 - Skilled in performing functional and serial port testing to ensure stable module communication, while leveraging Git for version control and collaboration.

SKILLS

- **Programming:** Python, C++, Java, Matlab, HTML/CSS
- **Robotics:** ROS/ROS2, Motion planning (OMPL, MoveIt), Impedance control, Multi-arm and dexterous teleoperation, Franka Emika Robot, Tesollo Hand
- **Machine Learning:** PyTorch, Diffusion Policy, Behavior Cloning, LSTM, Vision-Language Grounding
- **XR Integration:** VR/AR interfaces for robotics (Meta Quest 3)
- **Systems & Tools:** Linux, Git, Docker, NumPy, Gazebo, PyBullet, Open3D, Issac Sim