Jiaming Hu

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MAIN RESEARCH FOCUS

Multi-Modal Planning in Manipulation, Perception for Manipulation

EDUCATION

B.S., M.S., and Ph.D. | UNIVERSITY OF CALIFORNIA, SAN DIEGO 09/2016-NOW

- Major: Computer Science and Engineering

TECHNICAL STRENGTHS

Language: C/C++, Java, Python, Bash
Tools: OpenCV, OMPL, Git, Docker, CMake, ROS, Gazebo, CoppliaSim, Moveit!, OpenGL, Pytorch, PCL, mySQL

Publication

J. Hu, S. Iyer, and H. Christensen, “An Experience-based TAMP Framework for Foliated Manifolds,” Under review, 2023
J. Hu, Z. Tang, and H. Christensen, “Multi-Modal Planning on Regrasping for Stable Manipulation,” 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems(IROS), 2023
J. Hu, A Adeleye, and H. Christensen, “Place-and-Pick-Based Re-grasping Using Unstable Placement,” The International Symposium of Robotics Research, 252-267, 2022
A. Adeleye, J. Hu, and H. Christensen, “Putting away the groceries with precise semantic placements,” 2022 IEEE 18th International Conference on Automation Science and Engineering (CASE), 2022
J. Hu, and H. Christensen, “Rotational Slippage Minimization in Object Manipulation,” 2022 IEEE 18th International Conference on Automation Science and Engineering (CASE), 2022
P Parashar, A Naik, J Hu, and H. Christensen, “A hierarchical model to enable plan reuse and repair in assembly domains,” 2021 IEEE 17th International Conference on Automation Science and Engineering (CASE), 2021
A. Naik, P. Parashar, J.Hu, and H. Christensen, “Lessons Learned Developing an Assembly System for WRS 2020 Assembly Challenge,” arXiv preprint arXiv:2103.15236, 2021
P. Parashar, A. Naik, J. Hu, and H. Christensen, “Meta-Modeling of assembly contingencies and planning for repair,” arXiv preprint arXiv:2103.07544, 2021
J. Hu, H. Ling, P. Parashar, A. Naik, and H. Christensen, “Pose estimation of specular and symmetrical objects,” arXiv preprint arXiv:2011.00372, 2020

TEACHING EXPERIENCE

Introduction to Robotics, UCSD 10/2022-12/2022

- Developed exercises for path planning, localization, and mapping system on RB5 platform.

RESEARCH PROJECT EXPERIENCE

Automatic Assembly System with UR5

- System integration of assembly pipeline on UR5.
- Implemented 6D pose estimation on parts.
- Closed-loop impedance control of assembly process.
- Behavior planning of assembly system for failure recovery.

Home-Robot for Rearrangement based on user preference

- System integration Fetch Robot Platform.
- Developed stable grasping planning.
- Developed drawer opening system.

Constrained motion planning integration in Moveit!

- Modified the original Moveit! source code to make to support constrained motion planning