Yifei Dong

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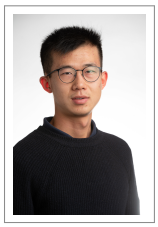
yifeidong0.github.io/



Education

2023 - Now **KTH Royal Institute of Technology**, *PhD Candidate*, Robotics, Computer Science

2019 - 2022 **ETH Zurich**, *M.Sc.*, Mechanical Engineering

2015 - 2019 **Shanghai Jiao Tong University**, *B.Sc.*, Mechanical Engineering
Tsien Hsue-shen Honors Program & Zhiyuan Honors Program of Engineering (Top 5%)

Employment

2023 - Now **Robotics, Perception and Learning, KTH**, *Stockholm*
Doctoral Researcher, with Assoc. Prof. Florian Pokorny
Robust planning in dexterous and caging-based manipulation.

2022 **Idiap, EPFL**, *Martigny*, *Research Assistant*, with Dr. Sylvain Calinon
Phase estimation on Riemannian manifold. Code contribution: Robotics Code From Scratch

2022 **F&P Robotics**, *Zürich*, *Software Engineer Intern*
Motion planning of door opening and human-robot interaction for a mobile service robot.

2018 **NIO Inc.**, *Shanghai*, *Software Engineer Intern*
LiDAR simulation of an autonomous vehicle in various traffic scenes.

Publications

Journals and Conference Proceedings:

[c1] **Yifei Dong**, Florian T. Pokorny, *Quasi-static Soft Fixture Analysis of Rigid and Deformable Objects*, International Conference on Robotics and Automation (ICRA), 2024, *Website* | *Paper*

[j1] **Yifei Dong**, Xianyi Cheng, Florian T. Pokorny, *Characterizing Manipulation Robustness through Energy Margin and Caging Analysis*, Robotics and Automation Letters (RA-L), 2024, to be presented at ICRA 2025, *Paper*

Preprints and Workshops (* equal contribution):

[p1] **Yifei Dong***, Shaohang Han*, Xianyi Cheng, Werner Friedl, Rafael I. Cabral Muchacho, Máximo A. Roa, Jana Tumova, and Florian T. Pokorny, *Co-Designing Tools and Control Policies for Robust Manipulation*, submitted to ICRA, 2025, *Paper*

[w2] Yifei Dong, Xianyi Cheng, Werner Friedl, Aurel Schröter, Ashok M. Sundaram, Máximo A. Roa, and Florian T. Pokorny, *Advancing Robust Multi-Object Manipulation with Energy Margins*, Workshop on Multi-Object Grasping: Progress and Prospects (ICRA), 2024, *Paper*

[w1] Yifei Dong, Florian T. Pokorny, *Soft Fixtures: Towards Practical Caging-Based Manipulation of Rigid and Deformable Objects*, Workshop on Representing and Manipulating Deformable Objects (ICRA), 2023, *Paper*

Academic Activities

Talks and Paper Review:

2024 Invited talk at Prof. Joel Burdick's and Prof. Aaron Ames' groups, California Institute of Technology

2024 Oral presentation at ICRA 2024, Yokohama, Japan

2024 Reviewer for IEEE Robotics and Automation Letters, ISRR

Supervision and Teaching:

2024 Supervising master thesis, "A Co-design Benchmark for Real-World Manipulation", Li Chen

2024 Supervising master thesis, "Co-designing Tools and Control Policies for Deformable Object Manipulation", Kei Ikemura

2024 Teaching Assistant in Introduction to Robotics, DD2410, KTH

Research Experience

2021 **Robotic Systems Lab, ETH**, *Zürich*, *Graduate Researcher*, with Prof. Marco Hutter
Master Thesis: Mobile Door State Estimation and Parameter Identification | Thesis
Semester Thesis: Contact-Implicit MPC for Mobile Manipulation | Video | Thesis

2020 **Computer Vision and Geometry Lab & Microsoft**, *Zürich*, with Prof. Marc Pollefeys
Course Project: Object mesh reconstruction using RGB-D cameras. | Thesis | Git | Video

2019 **SAIC Motor**, *Shanghai*
Bachelor Thesis: Strategy Optimization of Autonomous Emergency Braking

2018 **Institute of Design and Control Engineering, SJTU**, *Shanghai*
3-DOF plum processing system for surface-curving and core-deprivation. | Video

2017 **FSAE Racing Team, SJTU**, *Shanghai*, *Undergraduate Mechanical Engineer*

2017 **Institute of Intelligent Vehicle, SJTU**, *Shanghai*
Structural design and locomotion formulation of a snake robot. | Video

Awards & Grants

2023 Team Member of European Commission Project: SoftEnable

2021, 2022 ETH Scholarship for International Students

2019 Excellence Award, BAIC Automobile Invitational Tournament

2018 Tan Kah Kee Invention Award

2016, 2018 General Motors Scholarship

2017 Huawei Scholarship

2016, 2017 Zhiyuan College Honors Scholarship

Skills

Programming Python, C++, MATLAB, C, C#

Tools ROS, Gazebo, Pybullet, Isaac Gym, Git, Docker, Simulink, Unity3D, Blender, LaTex, PyTorch, ANSYS, SolidWorks, CATIA, NX Unigraphics

Language English (TOEFL 109/120), Chinese (native), German (Goethe B1)