YIDE LIU

Tsinghua University, Beijing, China
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EMPLOYMENT HISTORY

Postdoctoral Researcher, Tsinghua University in Mechanical Engineering — September 2023 - now

· Advisor: Prof. Xin-Jun Liu

EDUCATION

Ph.D., Zhejiang University in Mechanics — September 2018 - July 2023

· Thesis title: Structure design and bionic control of micro robots and assembly system
· Advisor: Prof. Shaoxing Qu

Visiting Student., University of California, Riverside — August 2016 - December 2016

· Courses: Fluid Mechanics, Dynamics, Introuduction of Mechatronics
· GPA: 4/4.

B.Eng., Harbin Institute of Technology in Mechatronics — September 2014 - July 2018

· GPA: 3.44/4, Rank: #2, Honors School - *150 selected from over 4200 students*
· Advisor: Prof. Jihong Yan

AWARDS, SCHOLARSHIPS, AND RECOGNITIONS

RSS Pioneers — July 2023

· 30 selected, internationally among robotics researchers (22% acceptance rate)
· Robotics: Science and Systems

Zengqi Lu Outstanding Ph.D. students award — September 2021

· 10 selected, institution
· State Key Laboratory of Fluid Power and Mechatronic Systems, Zhejiang University

Excellent thesis — July 2018

· 100 selected from over 4200 undergraduate students
· Harbin Institute of Technology

RESEARCH GRANTS

National Natural Science Foundation of China, Youth Fund

· Role: Principal Investigator
· Amount: CNY 300,000

RESEARCH INTERESTS AND SKILLS

Interests: Robotic Insects / Multi-robot Systems / Central Pattern Generator / Small Parallel Robots
Skills: Python, Matlab, Mathematica, Solidworks, AutoCAD, EDA, Adams, Abaqus, LaTeX

PUBLICATIONS

(# for co-first author, * for corresponding author)

[11] Yide Liu# , Xiyan Liu#, Wei Yang and Shaoxing Qu. An eight-neuron network for quadruped locomotion with hip-knee joint control . submitted to ***The International Journal of Robotics Research*** . (Accepted)

[10] Taishan Liu,Yide Liu*, Rongbao Zeng, Bian Gan, Meng Zhang, Hua Li, Shaoxing Qu*, and Haofei Zhou*. (2025). A bio-inspired multi-motion modality underwater micro robot. ***Science Advances*** 11(19).

[9] Bo Feng#, Yide Liu# *, Jiahang Zhang#, Shaoxing Qu*, and Wei Yang. (2025). Miniature origami robot for various biological micromanipulations. ***Nature Communications*** 16,2633.

[8] Yide Liu, Bo Feng, Tianlun Cheng, Yanhong Chen, Xiyan Liu, Jiahang Zhang, Shaoxing Qu, and Wei Yang. (2024). Singularity Analysis and Solutions for the Origami Transmission Mechanism of Fast-Moving Untethered Insect-scale Robot. ***IEEE Transactions on Robotics***,40,777-796.

[7] Yide Liu, Yanhong Chen, Bo Feng, Dongqi Wang, Taishan Liu, Haofei Zhou, Hua Li, Shaoxing Qu, and Wei Yang. (2022) S^2worm: A Fast-moving Untethered Insect-scale Robot with 2-DoF Transmission Mechanism. ***IEEE Robotics and Automation Letters***, 7(3), 6758-6765.

[6] Yanhong Chen #, Yide Liu#, Taishan Liu, Hua Li, Shaoxing Qu, and Wei Yang. (2022). Design and analysis of an untethered micro flapping robot which can glide on the water. ***SCIENCE CHINA Technological Sciences***, 65(8), 1749-1759.

[5] Yimou Fu, Xiaocheng Hu, Yide Liu, Peng Wang, Shuo Chen, Haofei Zhou, Honghui Yu, Shaoxing Qu, and Wei Yang. (2022). Impact-induced bubble interactions and coalescence in soft materials. ***International Journal of Solids and Structures***, 238, 111387.

[4] Xiaocheng Hu, Yimou Fu,Yide Liu, Binhong Liu, and Shaoxing Qu. (2021). Acarid Suction Cup-Inspired Rapid and Tunable Magnetic Adhesion. ***Advanced Materials Technologies***, 6(8), 2100004.

[3] Donghao Zhao, Yide Liu, Binhong Liu, Zhe Chen, Guodong Nian, Shaoxing Qu, and Wei Yang. (2021). 3D printing method for tough multifunctional particle-based double-network hydrogels. ***ACS Applied Materials and Interfaces***, 13(11), 13714-13723.

[2] Yide Liu, Donghao Zhao, Yanhong Chen, Dongqi Wang, Zhou Wen, Ziyi Ye, Jianhui Guo, Haofei Zhou, Shaoxing Qu, and Wei Yang. BioARS: Designing Adaptive and Reconfigurable Bionic Assembly Robotic System with Inchworm Modules. (2020). In ***2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*** (pp. 11681-11687). IEEE.

[1] Yide Liu, Binhong Liu, Tenghao Yin, Yuhai Xiang, Haofei Zhou, Shaoxing Qu. (2019). Bistable rotating mechanism based on dielectric elastomer actuator. ***Smart Materials and Structures***, 29(1), 015008.

ACADEMIC SERVICES

Reviewer for **IEEE Transactions on {Robotics, Mechatronics, Industrial Electronics}**
IEEE Robotics and Automation Letters (RA-L)

Program Committee for **RSS Pioneers 2024**

WORK EXPERIENCE

DJI Technology Co., Ltd. July 2017

· Leader of the design internship group - *the group consists of 100 interns selected from over 1000 students*
· ***2017*** Third Place of the DJI international internship robot competition

REFERENCE

Prof. Shaoxing Qu - squ@zju.edu.cn

Prof. Xin-Jun Liu - xinjunliu@mail.tsinghua.edu.cn

Prof. Huichan Zhao - zhaohuichan@mail.tsinghua.edu.cn