Chunxiang Wang

Ph.D. student in robotics
ETH Zürich; MPI-IS.

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RESEARCH INTERESTS

- **Soft Robotics**: robot design, fabrication, mechanics, magnetic actuation.
- **Computer Vision**: image processing, medical imaging, object tracking, generative models.
- **Robotic Control**: control theory, optimal filtering, robotic arm control, micromanipulation.

EDUCATION

- Ph.D. in Information Technology and Electrical Engineering, 2021 – Now.
Department of Information Technology and Electrical Engineering, **ETH Zürich**, Zürich, Switzerland.
Department of Physical Intelligence, Max Planck Institute for Intelligent Systems (**MPI-IS**), Stuttgart, Germany.
Advisor: Prof. **Metin Sitti** (NAE Member, USA).

- M.Sc. in Control Science and Engineering, September 2019 – June 2021.
School of Astronautics, Harbin Institute of Technology (**HIT**), Harbin, China.
Advisor: Prof. **Huijun Gao** (NSFDYS Recipient, China).
IELTS: 7.5/9.0.

- B.Eng. in Automation, September 2015 – June 2019.
School of Astronautics, Harbin Institute of Technology (**HIT**), Harbin, China.
Advisor: Prof. **Huijun Gao** (NSFDYS Recipient, China).
GPA: 93.75/100.

PUBLICATIONS

- Wang, Chunxiang, et al. "Heterogeneous multiple soft millirobots in three-dimensional lumens." *Science Advances* 10.45 (2024): eadq1951.

- Wang, Chunxiang, et al. "In situ sensing physiological properties of biological tissues using wireless miniature soft robots." *Science advances* 9.23 (2023): eadg3988.

- Wang, Chunxiang, et al. " MicroSyn-X: Synthetic data-driven tracking and robotic deployment of miniature medical devices via X-ray imaging." *Nature Machine Intelligence* (2025): ready for submission.

- Wang, Chunxiang, et al. "Synthetic data-assisted millirobotic navigation via ultrasound imaging." *IEEE/ASME Transactions on Mechatronics* (2024): Accept.

- Wang, Chunxiang, et al. "Daniosense: automated high-throughput quantification of zebrafish larvae group movement." *IEEE Transactions on Automation Science and Engineering* 19.2 (2021): 1058-1069.

- Hong, Chong, et al. "Wireless flow-powered miniature robot capable of traversing tubular structures." *Science Robotics* 9.88 (2024): eadi5155.

- Sun, Mengmeng, et al. "Versatile, modular, and customizable magnetic solid-droplet systems." *Proceedings of the National Academy of Sciences* 121.32 (2024): e2405095121.

- Wu, Yingdan, et al. "Wireless soft millirobots for climbing three-dimensional surfaces in confined spaces." *Science Advances* 8.21 (2022): eabn3431.

- Zhang, Gefei, et al. "Visual-based contact detection for automated zebrafish larva heart microinjection." *IEEE Transactions on Automation Science and Engineering* 18.4 (2020): 1803-1813.

Professional Experience

Peer Reviewer for IEEE/ASME Transactions on Mechatronics (T-Mech), IEEE Transactions on Cybernetics, IEEE International Conference on Robotics and Automation (ICRA), and Research.

Awards & Honors

- Max Planck Fellowship. 2021.
Max Planck Society, Germany.

- Best Graduation Thesis. 2021.
Postgraduate School of HIT (Top 1% within HIT)

- Outstanding Undergraduate Award. 2021.
Postgraduate School of HIT (Top 10% within HIT)

- First-class Postgraduate Scholarship. 2020.
Postgraduate School of HIT (Top 10% within HIT)

- First-class Special Scholarship. 2019.
Postgraduate School of HIT (Top 2% within HIT)

- Best Graduation Thesis. 2019.
Undergraduate School of HIT (Top 2% within HIT)

- Outstanding Undergraduate Award. 2019.
Undergraduate School of HIT (Top 10% within HIT)

- Second prize of National University Student Social Practice and Science Contest on Energy saving and Emission Reduction. 2018.
Ministry of Education of the People's Republic of China

- National Encouragement Scholarship. 2018.
Ministry of Education of the People's Republic of China (Top 10% within HIT)

- National Special Scholarship. 2017.
Ministry of Education of the People's Republic of China (Top 10% within HIT)

- Best Learner Award. 2016.
Undergraduate School of HIT (Top 1% within HIT)

- First Class of People's Scholarship. 2015, 2019.
Undergraduate School of HIT (Top 3% within HIT)