Yuhao Jiang

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Education

Arizona State University

Ph.D. in Mechanical Engineering — *Jan. 2019 - Aug 2023*

Dissertation: Y. Jiang, "Design and Modeling of Soft Curved Reconfigurable Anisotropic Mechanisms", 2023.

Advisor: Prof. Daniel Aukes.

Committee: Prof. Spring Berman, Prof. Hyunglae Lee, Prof. Hamidreza Marvi, Prof. Siddharth Srivastava.

University of Florida

Master of Science in Mechanical Engineering — *Sep. 2015 - May. 2017*

Donghua University

Bachelor of Engineering in Mechanical Engineering — *Sep. 2011 - Jun. 2015*

Professional Experience

Post-doctoral Researcher

Reconfigurable Robotics Lab, EPFL — *Sep. 2023 - Present*

Publications

Google Scholar: Yuhao Jiang

- **Y. Jiang**, F. Chen and D. M. Aukes, "Tunable Dynamic Walking via Soft Twisted Beam Vibration," in IEEE Robotics and Automation Letters, vol. 8, no. 4, pp. 1967-1974, April 2023,

  https://doi.org/10.1109/LRA.2023.3244716.

- **Y. Jiang**, M. Sharifzadeh, and D. M. Aukes, "Reconfigurable Soft Flexure Hinges via Pinched Tubes," 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2020, pp. 8843-8850,

  https://doi.org/10.1109/IROS45743.2020.9341109.

- **Y. Jiang**, M. Sharifzadeh, and D. M. Aukes, "Shape Change Propagation Through Soft Curved Materials for Dynamically-Tuned Paddling Robots," 2021 IEEE 4th International Conference on Soft Robotics (RoboSoft), 2021, pp. 230-237, https://doi.org/10.1109/RoboSoft51838.2021.9479208.

- M. Sharifzadeh, **Y. Jiang**, A. Lafmejani, D. M. Aukes, "Compensating for Material Deformation in Foldable Robots via Deep Learning – A Case Study," 2022 IEEE International Conference on Robotics and Automation (ICRA), 2022, https://doi.org/10.1109/ICRA46639.2022.9811752.

- M. Sharifzadeh, **Y. Jiang**, A. Lafmejani, K. Nichols, and D. M. Aukes, "Maneuverable gait selection for a novel fish-inspired robot using a CMA-ES-assisted workflow," in Bioinspiration & Biomimetics, vol. 16, no. 5, pp. 056017, August 2021, https://doi.org/10.1088/1748-3190/ac165d.

- M. Sharifzadeh, **Y. Jiang**, and D. M. Aukes, "Reconfigurable Curved Beams for Selectable Swimming Gaits in an Underwater Robot," in IEEE Robotics and Automation Letters, vol. 6, no. 2, pp. 3437-3444, April 2021, https://doi.org/10.1109/LRA.2021.3063961.

- Sharifzadeh, M, **Jiang, Y**, Khodambashi, R, & Aukes, D. "Increasing the Life Span of Foldable Manipulators With Fabric." Proceedings of the ASME 2020 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. Volume 10: 44th Mechanisms and Robotics Conference (MR). Virtual, Online. August 17–19, 2020. V010T10A087. ASME, https://doi.org/10.1115/DETC2020-22757.

Conference Talks

RoboSoft 2023:

- **Conference proceedings talk:** "Tunable Dynamic Walking via Soft Twisted Beam Vibration"
- **Workshop presentation:** "Model Order Reduction for Vibrational Soft Twisted Beams Using Pseudo-rigid-body Modeling – A Case Study", https://youtu.be/7g6SEwEBvhU.

ICRA 2022:

- **Conference proceedings talk:** "Compensating for Material Deformation in Foldable Robots Via Deep Learning – a Case Study", https://youtu.be/AwS4vabv-JQ.
- **Workshop presentation:** "Modular Robots Using Soft Curved Reconfigurable Anisotropic Mechanisms".

ICRA 2021:

- **Conference proceedings talk:** "Reconfigurable Curved Beams for Selectable Swimming Gaits in an Underwater Robot", https://youtu.be/EszTDc9slyw.

Robosoft 2021:

- **Conference proceedings talk:** "Shape Change Propagation Through Soft Curved Materials for Dynamically-Tuned Paddling Robots".

IROS 2020:

- **Conference proceedings talk:** "Reconfigurable Soft Flexure Hinges via Pinched Tubes", https://youtu.be/J5heXXD6mVo.

Patents

- "BUCKLING BEAMS FOR UNDERWATER AND TERRESTRIAL AUTONOMOUS VEHICLES", D Aukes, M Sharifzadeh, **Y Jiang** - US Patent App. 17/966,550, 2023;
- "Mechanisms for steering robotic fish", D Aukes, M Sharifzadeh, K Nichols, **Y Jiang** - US Patent 11,124,281, 2021;

Academic Services

Reviewer

- **Journal Reviewer:** Soft Robotics (SoRo), Journal of Field Robotics (JFR), IEEE Transactions on Robotics (T-RO), IEEE Robotics and Automation Letters (RA-L), ASME Journal of Mechanisms and Robotics (JMR).
- **Conference Reviewer:** IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), International Conference on Robotics and Automation (ICRA), International Conference on Soft Robotics (Robosoft), ACM Symposium on Computational Fabrication (SCF).

Organizing Workshops

- **ICRA 2023 Workshop:** "Breaking the Mold: Empowering Soft Robots with Reconfigurable Nonlinearity" (under review), https://www.scrambots.com/icra-2023-workshop.
- **Robosoft 2021 Workshop:** "Breaking the Mold: Challenging Current Paradigms in Soft Robotics", https://www.scrambots.com/robosoft-2021-workshop.