

TIANYU WANG

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Address: North Ave NW, Atlanta, GA 30332

EDUCATION

Georgia Institute of Technology, Atlanta, GA

2021-Present

- PhD in Robotics
- Advisor: Prof. Daniel Goldman

GPA: 4.0/4.0

Carnegie Mellon University, Pittsburgh, PA

2018 - 2020

- Master of Science in Mechanical Engineering
- Advisor: Prof. Howie Choset

GPA: 4.0/4.0

Shanghai Jiao Tong University, Shanghai, China

2014 - 2018

- Bachelor of Science in Electrical and Computer Engineering

GPA: 3.61/4.0

RESEARCH INTERESTS

Bio-inspired robot design and robophysical model developing

Locomotion principle and mechanics modeling

Geometric and dynamic motion planning and control

PUBLICATIONS

Journal/Conference Papers

- [10] B. Chong*, **T. Wang***, J. Rieser, B. Lin, A. Kaba, G. Blekherman, H. Choset and D. Goldman. Frequency modulation of body waves to improve performance of sidewinding robots. *The International Journal of Robotics Research*, 2021. (*equal contribution)
- [9] B. Chong, **T. Wang**, B. Lin, S. Li, G. Blekherman, H. Choset, D. Goldman. Moving sidewinding forward: optimizing contact patterns for limbless robots via geometric mechanics. *Robotics: Science and Systems*, 2021. **Best Paper Award Finalist**
- [8] **T. Wang***, B. Lin*, B. Chong, J. Whitman, M. Travers, D. Goldman, G. Blekherman, H. Choset. Reconstruction of Backbone Curves for Snake Robots. *IEEE Robotics and Automation Letters*, 2021.
- [7] G. Sartoretti G, **T. Wang**, G. Chuang, Q. Li, H. Choset. Autonomous Decentralized Shape-Based Navigation for Snake Robots in Dense Environments. *IEEE International Conference on Robotics and Automation (ICRA)*, 2021.
- [6] **T. Wang**, B. Chong, K. Diaz, J. Whitman, H. Lu, M. Travers, D. Goldman and H. Choset. The omega turn: a biologically-inspired turning strategy for elongated limbless robots. *IEEE International Conference on Intelligent Robots and Systems (IROS)*, 2020.
- [5] B. Chong, **T. Wang**, J. Rieser, A. Kaba, H. Choset and D. Goldman. Frequency modulation of body waves to improve performance of limbless robots. *Robotics: Science and Systems*, 2020.
- [4] **T. Wang**, J. Whitman, M. Travers, and H. Choset. Directional compliance in obstacle-aided navigation for snake robots. *American Control Conference*, 2020.
- [3] **T. Wang***, L. Ge*, and G. Gu. Programmable design of soft pneu-net actuators with oblique chambers can generate coupled bending and twisting motions. *Sensors and Actuators A: Physical*, 2018.
- [2] L. Ge*, **T. Wang***, N. Zhang, and G. Gu. Fabrication of soft pneumatic network actuators with oblique chambers. *Journal of Visualized Experiments*, 2018.

- [1] S. Wei, **T. Wang**, and G. Gu. Design of a soft pneumatic robotic gripper based on fiber-reinforced actuator. *Chinese Journal of Mechanical Engineering*, 2017.

Abstracts/Posters/Patents

- [8] **T. Wang**, B. Lin, B. Chong, J. Whitman, M. Travers, D. Goldman, H. Choset, G. Blekherman. Reconstruction of Backbone Curves for 3-D Locomotion of Limbless Robots. *American Physical Society March Meeting*, 2021.
- [7] **T. Wang**, B. Chong, K. Diaz, J. Whitman, H. Lu, M. Travers, D. Goldman and H. Choset. Nematode omega turns improve reorientation in a limbless robot. *American Physical Society March Meeting*, 2021.
- [6] **T. Wang**, B. Chong, K. Diaz, J. Whitman, H. Lu, M. Travers, D. Goldman and H. Choset. A Biologically Inspired Omega-Shaped Turning Gait for Elongated Limbless Robots. *American Physical Society March Meeting*, 2021.
- [5] **T. Wang**, B. Chong, K. Diaz, J. Whitman, H. Lu, M. Travers, D. Goldman and H. Choset. The omega turn: a biologically-inspired turning strategy for elongated limbless robots. *Workshop: Robotics-Inspired Biology in 2020 IEEE International Conference on Intelligent Robots and Systems (IROS)*, 2020.
- [4] **T. Wang**, J. Whitman, M. Travers, and H. Choset. Directional compliance in snake robot obstacle-aided locomotion. *American Physical Society March Meeting*, 2020.
- [3] K. Diaz, B. Chong, **T. Wang**, K. Bates, J. Ding, G. Sartoretti, H. Lu, H. Choset, D. Goldman. Steering and turning control of *C. elegans*. *American Physical Society March Meeting*, 2020.
- [2] K. Diaz, **T. Wang**, B. Chong, J. Ding, H. Lu, G. Sartoretti, H. Choset, D. Goldman. Steering behaviors of *C. elegans* locomotion in heterogeneous environments. *SICB Annual Meeting*, 2020.
- [1] G. Gu, L. Dong, **T. Wang**, and X. Zhu, Force feedback apparatus in bottom-up DLP 3D printers for soft materials. *China Patent, CN108081596A*, 2017.

TEACHING EXPERIENCE

SJTU VM467 Introduction to Robotics

Teaching Assistant

Spring 2018

Instructor: Prof. Yu Zheng

SJTU VE216 Signal and System

Teaching Assistant

Spring 2017

Instructor: Prof. Mohamed Atef

AWARDS AND HONORS

- SJTU Academic Excellence Scholarship 2015, 2016, 2017
- Silver Medal in Advanced Vision Challenge, RoboCup China Open 2016
- Covidien Scholarship 2014

MEDIA

These Search and Rescue Robots Could Save Your Life (by *freethink*)

November 12, 2019

Last updated on July 26, 2021