



# Xudong Han

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## EDUCATION

<b>Southern University of Science and Technology</b> Doctoral student, Intelligent Manufacturing and Robotics	2022.08 - 2027.07
<b>Southern University of Science and Technology</b> B.Eng., Mechanical Engineering	2018.08 - 2022.07

## PROJECTS

<b>Design and Application of Vision-based Tactile Sensing for Soft Finger</b> • SUSTech Students' Innovation and Entrepreneurship Training Program • Obtain patents granted in China (CN114043507A, CN113334414A)	2020.05 - 2022.05
<b>High-speed Intelligent System for Waste Classification</b> • Bronze Award in the 13th "Challenge Cup" Guangdong University Student Entrepreneurship Plan Competition	2020.05 - 2021.03

## PUBLICATIONS

- (2023) **Xudong Han**, Sheng Liu, Fang Wan\* and Chaoyang Song\*. "Vision-based Tactile Sensing for an Omni-adaptive Soft Finger." *IEEE International Conference on Development and Learning (ICDL)*. Macau, China, on 9-11 November 2023. (Accepted)
- (2023) Ning Guo, **Xudong Han**, Xiaobo Liu, Shuqiao Zhong, Zhiyuan Zhou, Jian Lin, Jiansheng Dai, Fang Wan\*, Chaoyang Song\*. "Autoencoding a Soft Touch to Learn Grasping from On-land to Underwater." *Advanced Intelligent Systems*. (Accepted)
- (2023) Xiaobo Liu#, **Xudong Han**#, Wei Hong, Fang Wan\*, and Chaoyang Song\*. "Proprioceptive Learning with Soft Polyhedral Networks." *The International Journal of Robotics Research*. (Under Review)
- (2023) Xiaobo Liu, **Xudong Han**, Ning Guo, Fang Wan\*, and Chaoyang Song\*. "Bio-inspired Proprioceptive Touch of a Soft Finger with Inner-Finger Kinesthetic Perception." *Biomimetics*. (Under Review)
- (2023) Ning Guo#, **Xudong Han**#, Shuqiao Zhong, Xiaobo Liu, Zhiyuan Zhou, Jian Lin, Fang Wan\*, and Chaoyang Song\*. "Visual-based Proprioceptive Soft Finger towards Shape Estimation and Touch Sensing." *IEEE International Conference on Robotics and Automation (ICRA)*. (Under Review)
- (2021) Linhan Yang, **Xudong Han**, Weijie Guo, Fang Wan, Jia Pan, Chaoyang Song\*. "Learning-based Optoelectronically Innervated Tactile Finger for Rigid-soft Interactive Grasping." *IEEE Robotics and Automation Letters*, 6(2), 3817-3824.
- (2021) Haiyang Jiang, **Xudong Han**, Yonglin Jing, Ning Guo, Fang Wan, Chaoyang Song\*. "Rigid-Soft Interactive Design of a Lobster-Inspired Finger Surface for Enhanced Grasping Underwater." *Frontiers in Robotics and AI*, 8, 787187.
- (2021) Fang Wan, Xiaobo Liu, Ning Guo, **Xudong Han**, Feng Tian, Chaoyang Song\*. "Visual Learning Towards Soft Robot Force Control using a 3D Metamaterial with Differential Stiffness." *Conference on Robot Learning*. London, UK, on 8-11 November 2021. PMLR, 164:1269-1278.

## EXPERIENCE

<b>SUSTech Robot Club</b> - President • Form teams participating in several national robot competitions • Award 2022 Outstanding Student Club in SUSTech	2021.01 - 2023.08
<b>MileBot Robotics</b> - Summer Intern • Participate in developing rehabilitation exoskeleton robot with a focus on mechanical design • Obtain a patent granted in China (CN215021628U)	2021.07 - 2021.08

## HONOR & AWARDS

Outstanding Graduates of SUSTech	2022.06
First Prize of Outstanding Student Scholarship of SUSTech	2021.11