

Haoran Wang

Department of Mechanical and Energy Engineering (MEE)
Southern University of Science and Technology (SUSTech), P.R. China

<https://criswang6.github.io/> | +86-18319053215 | Email: 12011430@mail.sustech.edu.cn

EDUCATION

Southern University of Science and Technology (SUSTech)

Shenzhen, China

Bachelor of Robotics Engineering

Sep. 2020-Jun. 2025

Overall GPA: 3.29/4.0; Major GPA: 3.45/4.0

Transferred the major from Industrial Design to Robotic Engineering.

Mar. 2022

PUBLICATION

- **H. Wang**, S. Wang, C. Dai, and Z. Jia, "SWhegPro3: A Three-Impeller Wheel-Leg Transformable Robot with Variable Robust Adaptability to Stair Dimensions", *IEEE International Conference on Robotics and Biomimetics (ROBIO)*, 2023, [10.1109/ROBIO58561.2023.10354942](https://doi.org/10.1109/ROBIO58561.2023.10354942).
- **H. Wang**, C. Dai, S. Wang, X. Zhang, Z. Zhu, X. Liu, J. Zhou, Z. Liu, and Z. Jia, "Ubiquitous Field Transportation Robots with Robust Wheel-Leg Transformable Modules", *IEEE ACCESS*, submitted April 2024. (under review)
- **H. Wang**, H. Xian, and C. Fu, "Prediction of Center of Pressure (CoP) and Ground Reaction Force Base on Lower Limb Dataset and Neural Network", *Conference*. (In Progress)

RESEARCH EXPERIENCE

SUSTech Institute of Robotics (SIR)

Shenzhen, China

Undergraduate Researcher under Prof. Zhenzhong Jia

Feb. 2023-Mar. 2024

➤ **Wheel-Leg Transformable Robots**

- Developed wheel-leg transformable robots with different actuation methods, integrating the advantages of wheels and legs seamlessly on a single platform.
- **SWhegPro3 robot**: A three-impeller wheel-leg transformable mobile robot, with an excellent stair-climbing performance in different dimensions of stairs to the maximum speed of 1.8 steps/sec. Paper published (the first author) at the 2023 *IEEE International Conference on Robotics and Biomimetics (ROBIO)*
- **Ubiquitous Field Transportation Robots**:
- Based on different working scenarios, two mobile robots (including SWhegPro3) based on transformable module wheel are designed to improve the performance in complex terrain. Submitted a journal paper to the *IEEE ACCESS* as the first author

Undergraduate Researcher under Prof. Chenglong Fu

Jan. 2024-June. 2024

➤ **Ground Reaction Force Prediction Model Based on IMU**

- Prediction of center of pressure (Cop) using lower limb acceleration and gyro information and the neural network.
- Some project description (TODO)

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SELECTED PROJECTS

Mobile Kitchen Waste Classifying Robot

Summer Camp, Instructed by Prof. Ke Wang

Sep. 2021-Dec. 2021

Team Leader, Mechanical Designer and UX Designer

- Base on the pains and needs of the residents who living in apartment, design a user-friendly mobile garbage sorting robot, which equipped with three-axis robotic arms.

Parallel Five-Bar SCARA Robot for Sorting

Instructed by Prof. Zhenzhong Jia

Sep. 2022-Dec. 2022

Course Project, Mechanical Designer

- Redesigned the five-bar parallel robot, integrated a tendon-driven suction cup to the end effector, then control it accurately moving objects.

Automatic Iron Robot

Summer school of Rapidamic Lab, SUSTech

Jun. 2023-Jul. 2023

Team Leader, UX Designer

- Redesigned the five-bar parallel robot, integrated a tendon-driven suction cup to the end effector, then control it accurately moving objects.

Drawing Robot Based on the Gen3-lite Robot Arm (In Progress)

Instructed by Prof. Qinghu Meng

Mar. 2024-Jun. 2024

Course Project, Team Leader

- Design a circular adapter to integrate pens on the end effector. Translate the input figures into trajectory of end effector. Control the arm with varies end effectors to paint in multiple postures.

AWARD

Honorable Mention in Interdisciplinary Contest in Modeling (15%)

Feb.2023

Sports Scholarship (5%)

Oct.2023

Outstanding Student (30%)

Oct.2023

LEADERSHIP

Student Union of ZHICHENG College

Sports Departments

Sep. 2020-Feb. 2022

- As the leader of site affairs team, responsible for the 10th anniversary of SUSTech.
- Operated WeChat Official Account to popularize sports on campus, published 10+ relevant articles.

Football team of SUSTech and ZHICHEN college

Captain

Sep. 2020-Feb. 2022

- Planned and executed various campus events related to football.
- Win several champions in provincial-level, city-level, and college-level.

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ADDITIONAL INFORMATION

Football Player

- As the top scorer, win the College Cup 2021 & 2023 & 2024 in SUSTech

High Jump Athlete, Track and field

- 4th Place of 2022 & 2023 Guangdong University Track and Field Championships
- 1st Place of 8th & 9th Track and Field Sports Meeting of SUSTech

Video Cutting

- Moderately proficient in multimedia software. (Photoshop, Premiere Pro, After Effect)
- Uploaded more than 30 videos in social medias, a total of 100k+ views, two of the works have been forwarded by official account of the Premier League ([Forwarded 1](#), [Forwarded 2](#)).

Programming Languages

- Java, Python, LATEX, Markdown

Software Skillsets

- MATLAB, ROS, SolidWorks, Keil, Gazebo, AutoCAD, Altium Designer

Languages

- Chinese (native), English (fluent speaker, IELTS: 7.0)