

# GUOJING HUANG

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## EDUCATION

### The University of Texas at Austin (UT-Austin)

The International Academy Program (2025 Winter, Engineering major track)

Austin, U.S.

Jan 2025 – Feb 2025

### Southern University of Science and Technology (SUSTech)

BE in Robotics Engineering (Expected Jul 2025)

Shenzhen, China

Sep 2021 – Present

- GPA: 3.60/4.00
- English Proficiency: IELTS 7.0 (L: 7.0, R: 8.5, W: 7.0, S: 6.0)
- Core courses: Robotic Actuation System (96), Fundamentals of Sensing Technology (95), Mechanisms and Applications (94), Robot Operating System (94), Robot Modeling and Control (93), Mechatronic Systems (92), Collaborative Robot Learning (91), CAD and Engineering Drawing (91)

## PUBLICATIONS

1. Sun, J., **Huang, G.**, Lin, C., Pan, W., Kong, H.C., Gou, G., Huang, S., Leng, Y., Fu, C., and Chen, Z., 2024. Flexible Multi-Channel Electrical Stimulation System for Assisting Grasping in Patients with Hemiplegia. *2024 International Conference on Advanced Robotics and Mechatronics (ICARM)*.
2. Sun, H, Huang, B., Zhang, Z., Xu, R., **Huang, G.**, Huang, G., Yin, J., Qiu, N., Chen, H., Zhang, W., Pan, J., Wan, F., Song, C., 2024. Overconstrained Locomotion. *2024 International Symposium on Robotics Research*.
3. Chen, Y., Zhang, C., Gu, P., Qiu, J., Yin, J., Qiu, N., **Huang, G.**, Huang, B., Zhang, Z., Deng, H., Zhang, W., Wan, F., and Song, C., 2024. Evolutionary Morphology Towards Overconstrained Locomotion via Large-Scale, Multi-Terrain Deep Reinforcement Learning. *2024 6th IEEE/IFTToMM International Conference on Reconfigurable Mechanisms and Robots*.
4. Gou, G., Kong, H.C., Sun, J., Lin, C., Pan, W., **Huang, G.**, Leng, Y., Guo, Y., and Fu, C., 2024. IMU-Based Prediction of Multiple Grasping Gesture Intentions for Enhanced Functional Electrical Stimulation Control. *2024 International Conference on Advanced Robotics and Mechatronics (ICARM)*.
5. Chenglong Fu, Chengjie Zhang, Yuquan Leng, **Guojing Huang**, Yaoyu Cheng, CN116243795B, China, An object grasping method and mixed reality equipment based on mixed reality.

## RESEARCH EXPERIENCE

### Design Principle and Motion Control Simulation of Pseudo-open-chain Mechanism of Overconstrained Quadruped Robot Limb (in progress)

Supervised by Prof. Chaoyang Song

Shenzhen, China

Sep 2024 – Present

### Investigating Overconstrained Locomotion using Reinforcement Learning

Supervised by Prof. Chaoyang Song

Shenzhen, China

Oct 2023 – Jul 2024

- Minimized physical collisions of the model to reduce computational overhead for 38%.
- Wrote 1088 lines code in total for configuring the robot's physical properties, initial position, motor parameters, environment integration, articulation motion rate adjustment, random state addition, and reward function design.
- Published an **ISRR** paper and a **ReMAR** paper
- Won 3 prizes of 23rd National CURC RoboCon 2024 Bionic Legged Robot Challenge, and the “Challenge Cup” Guangdong College Student Entrepreneurship Plan Competition **Gold Award**(0.4%)

### Flexible Multi-Channel Electrical Stimulation System for Assisting Grasping in Patients with Hemiplegia

Supervised by Prof. Chenglong Fu

Shenzhen, China

Nov 2023 – Mar 2024

- Configured 15 existing robotic arm gripping framework. Developed a method to determine reasonable gripping positions and finger spreading widths.
- Assisted in constructing the hardware system and used MediaPipe for gesture recognition and data extraction.
- Published two **IEEE ICARM** papers with one being **second author**.

### An Effective Head-Based HRI for 6D Robotic Grasping Using Mixed Reality

Supervised by Prof. Chenglong Fu

Shenzhen, China

Mar 2023 – Jul 2023

- Developed a point-cloud diffusion method to recognize and reconfigure objects using Unity, utilized HoloLens2 to enable the robotic arm to complete gripping tasks.
- Published a **patent** and an **IEEE RA-L** paper, won Second Prize in the “Xiake Cup” Innovation and Entrepreneurship Competition.
- Interviewd by Shenzhen TV, reported and transmitted by SUSTech and several self-media channels.

## SELECTED AWARDS AND HONORS

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|---|------|
| • <b>Outstanding Student 2024</b> , Southern University of Science and Technology                                       | 2024 |
| • <b>Dean's award</b> , Shude College 2024 scholarship(<0.6%)   | 2024 |
| • <b>Nomination Prize</b> , School Motto "Innovation" Series Scholarship, SUSTech(0.2%)                                 | 2024 |
| • <b>First Prize</b> , 23 <sup>rd</sup> National CURC RoboCon 2024 "Granary Returns"- Operation Skills Challenge(8/70)  | 2024 |
| • <b>Second Prize</b> , 23 <sup>rd</sup> National CURC RoboCon 2024 "Granary Returns" - Main Race(23/84)                | 2024 |
| • <b>Third Prize</b> , 23 <sup>rd</sup> National CURC RoboCon 2024 Bionic Legged Robot Challenge-Indoor Obstacle Course | 2024 |
| • <b>Third Prize</b> , 23 <sup>rd</sup> National CURC RoboCon 2024 Bionic Legged Robot Challenge - Indoor Race Course   | 2024 |
| • <b>Innovation Award</b> , 23 <sup>rd</sup> National CURC RoboCon 2024 Bionic Legged Robot Challenge(1/86)             | 2024 |
| • <b>Gold Award</b> , 14th Challenge Cup Guangdong College Student Entrepreneurship Plan Competition(0.4%)              | 2024 |
| • <b>Outstanding Student 2023</b> , Southern University of Science and Technology                                       | 2024 |
| • <b>Second Prize</b> , 2th "Advance" Training Camp Presentation Evaluation, SUSTech                                    | 2023 |
| • <b>Third Prize</b> , 2023 China College Student Mechanical Engineering Innovation and Design Competition              | 2023 |
| • <b>Third Prize Scholarship</b> , Outstanding Student Scholarship 2022-2023, SUSTech                                   | 2023 |
| • <b>Second Prize</b> , "Xiake Cup" China Jiangyin 6th Innovation and Entrepreneurship Competition                      | 2023 |
| • <b>ADVANCED INDIVIDUAL</b> , Alma Mater Revisiting Program, SUSTech   | 2022 |
| • <b>Freshman Scholarship Excellence Award</b> , Southern University of Science and Technology                          | 2021 |

## EXTRACURRICULAR EXPERIENCES

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| • <b>President</b> , the Robot Club and the School Representative Team at SUSTech.<br>Led a 30-member team in skills training, robot construction, and competition preparation; secured funding, space, and sponsorships; led a 20-member team to Nanjing University of Science and Technology(Jiangyin) for a 15-day competition, winning 5 National Prizes at the 23rd National CURC RoboCon 2024. | Aug 2023 – Jul 2024 |
| • <b>Volunteer</b> , the Global Engineering Deans Council (GEDC) Industry Forum at SUSTech<br>Provided transportation for VIPs and on-site support; completed volunteer duties successfully; discussed academic research and personal development with the Dean of USC's College of Engineering.   | Jan 2024            |
| • <b>Minister</b> , Student Union of Shude College. SUSTech<br>Held weekly meetings with department members and the presidium of the student union, led department members to learn the activity planning process, formulate experience documents and paradigms for holding various activities, and communicate with students from other colleges and universities on behalf of the college          | Sep 2022 – Jun 2023 |
| • <b>Project Manager</b> , the SUSTech Shude College Mid-Autumn "Lake Wish" event<br>Led planning, approvals, team formation, activity design, procurement, and on-site management; organized a 13-member team; designed activities like handmade mooncakes, pomelo eating contest, and lake wish event with nearly 200 participants from SUSTech.   | Sep 2022            |
| • <b>Co-Project Manager</b> , the SUSTech Shude College 2022 Graduation Party<br>Led planning, team formation, activity design, procurement, and on-site management; organized a 20-member team, coordinated 5 performances, graduation exhibition, custom T-shirt design, and activities for 50 graduates.  | Jul 2022            |

## SKILLS

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- Programming language: Java, Python, C/C++, MATLAB, ROS/ROS2, C#, Arduino
  - Operating system: Windows, Linux
  - Language: Chinese native, English proficient