

EDUCATION

Southern University of Science and Technology

Master of Intelligent Manufacturing and Robotics

Shenzhen, China

Sep. 2025 – Present

Chang'an University

Bachelor of Engineering in Mechatronic Engineering

Xi'an, China

Sep. 2021 – Jun. 2025

- **GPA:** 90.0/100 **Rank:** 3/119(Top 3%)
- **Awards:** National Scholarship (2022, 2023, 2024 - Top 1% of the department).
- **Key Coursework:** Microcontroller Principles (94), Computational Methods (97), Dynamics of Mechanical Systems (92), Mechanics of Materials (94), Theoretical Mechanics (90).

TECHNICAL SKILLS

- **Mechanical Design & Simulation:** SolidWorks, Ansys Fluent (CFD), EDEM (Discrete Element Method), Xflow, AutoCAD.
- **Embedded Systems & Control:** STM32, Arduino, Raspberry Pi, ROS, PID Control, Motor Drive & Control.
- **Programming & Algorithms:** Python (NumPy, Pandas, PyTorch), MATLAB/Simulink, C/C++.
- **AI & Development:** CNN, RNN, Transformer architectures; Git, Docker, Linux (Ubuntu), LaTeX.
- **Languages:** English (CET-6: 431, CET-4: 513), Mandarin (Native).

PROJECT EXPERIENCE

Design and Fabrication of a Bionic Butterfly

Project Leader

Aug. 2023 – Jan. 2024

- Led the structural design of a biomimetic flapper using **SolidWorks**; engineered a dual-servo direct drive mechanism.
- Conducted aerodynamic simulations using **Xflow** to analyze lift/drag characteristics and optimized the wing topology.
- Implemented the flight control system, achieving stable flight and rapid response to external disturbances.
- **Outcome:** 2nd Prize, Chang'an University Mechanical Innovation Design Competition.

Arduino-based Magnetically Constrained Balancing Device

Project Leader

Feb. 2023 – Jul. 2023

- Designed a magnetic levitation system using **Arduino** and electromagnetic coils to achieve non-contact constraint.
- Developed and tuned **PID algorithms** to enhance system stability and suppress vibrations under external impact.
- Managed the prototyping process, significantly improving structural rigidity and interference immunity.
- **Outcome:** 1st Prize, National College Physics Experiment Competition (Innovation); 2nd Prize in the Northwest Regional Physics Experiment Competition.

Design and Fabrication of a Bionic Butterfly

Core Member

Nov. 2021 – Nov. 2022

- Addressed the "low rock-breaking efficiency" bottleneck by developing a "pressure-impulse" coupling mechanism.
- Modeled the complex cutterhead assembly (>500 parts) in **SolidWorks** and analyzed cutter-rock interaction mechanics.
- Optimized the layout of hob-hammer units to maximize the static-kinetic coupling effect for hard rock geology.
- **Outcome:** Grand Prize, 13th "Challenge Cup" (Shaanxi Region); Authorized 2 Utility Model Patents; National Innovation Project Excellence Award.

AWARDS & HONORS

National Scholarship (Ministry of Education, Highest Honor for Undergraduates)

2022, 2023, 2024

1st Prize, 9th Chinese Undergraduate Physics Experiment Competition

Dec. 2023

1st Prize, China Undergraduate Mathematical Contest in Modeling (Shaanxi)

Sep. 2022

Silver Prize, 9th China Int'l College Students' "Internet+" Innovation Competition (Shaanxi)

Aug. 2023

Merit Award, The 14th Zhou Peiyuan's Competition of Mechanics

Apr. 2023

Honorable Mention Award, The Mathematical Contest in Modeling

2023, 2024, 2025

3rd Prize, Individual All-around National Competition for Advanced Mapping Technology

Jul. 2022

1st Prize, Shaanxi Province Engineering Drawing and 3D Modeling Competition

May 2022

2nd Prize, Northwest Physics Experiment Competition, 2023

Sep. 2023

3rd Prize, Siemens Cup China Intelligent Manufacturing Challenge (West Region)

Aug. 2023