

## Education

### ShanghaiTech University

Shanghai, China

Bachelor of Engineering, Electronic Information engineering  
Overall GPA-**3.80/4.0**, Major Rank-**2/55**, Overall Rank-**8/230**

Sep. 2021 - Present

### Massachusetts Institute of Technology

Massachusetts, U.S.

Special Student Program  
Overall GPA-**5.0/5.0**

Feb. 2024 - May.2024

## Publication

1. **Zhongtao Guan**, et al. "Accurate Single-Ended Fault Location for Cable-OHL Hybrid Transmission Lines", in Power and Energy Society General Meeting (PESGM), 2023.
2. Jiayu Yang, Yu Liu\*, Kang Yue, **Zhongtao Guan**, Minfan Fu and Haoyu Wang, "Closed-Form Solutions of Mutual Inductance and Load for LCC-S Wireless Power Transfer Systems", in 3rd IEEE International Conference on Industrial Electronics for Sustainable Energy Systems, Jul. 2023.
3. Mengzhao Duan, Yu Liu\*, Ze Liu, Xincheng Zou and **Zhongtao Guan**. 'A Group of Single-Ended Time-Domain Line Fault Location Methods Using Breaker Operation Information', in IEEE Power and Energy Society General Meeting (PESGM), 2023.
4. **Zhongtao Guan**, et al. "Cury: A Backdrivable Leg Design using Linear Actuators ", International Conference on Intelligent Robots and Systems (IROS 2024), Under review.

## Research Experience

### SOFT AND MICRO ROBOTICS LABORATORY

Undergraduate Visiting Student Mentors: Prof. Kevin Chen

Jun.2024–Present

Massachusetts Institute of Technology

- Sensor autonomy of insect-scale robots.

### SOFT AND MICRO ROBOTICS LABORATORY

UROD at MIT, Mentors: Prof. Kevin Chen

Jan.2024–May.2024

Massachusetts Institute of Technology

- Trajectory optimization and MPC tracking for a insect-scale hopping flapping wing robots.

### Motor and Motion-Control Lab

Research Assistant, Mentors: Prof. Chen Jiahao

Aug.2023–Jan.2024

ShanghaiTech University

- Mechanical design and control of bipedal robot.
- Actuators design for bipedal robot for backdrivable and energy recovery.
- Design of four-in-one motor drivers.
- Using parameter curve for controller design.

### Power System Protection & Automation Laboratory

Research Assistant, Mentors: Prof. Liu Yu

Jun..2022 – Aug..2023

ShanghaiTech University

- Fault Location of the mixed-transmission line using single-ended measurements.
- Low-Cost inverter design for renewable energy .

## Projects and Competition

### Robomaster

9.2021-6.2022

Robot Competition

- Lead and coordinate a group for experimental robot design and development.
- Responsible for mechanical design and routine maintenance.

### Bandit Algorithm

Autumn 2022

Group Project

- Realize and compare the performance of  $\epsilon$ -greedy, UCB(upper confidence bound) and TS(Thompson Sampling) algorithms.
- Design more practical cases and adjust algorithms to obtain better performance.

## Work and Volunteer Experience

### Electric Circuit

Spring 2023

Teaching Assistant

ShanghaiTech University

- Responsible to course recordings, tutorial classes; Problem sets and answers.

### Volunteer Teaching in Yunnan

Spring 2022

Volunteer Teacher

ShanghaiTech University

- Teaching Physics and Chinese for children in one of Dali's depressed village.
- Continue donating salary of teaching assistant through United Nations Children's Fund.

## Awards

<b>Excellent Student</b>	<b>Top 1-3%</b>	2022
<b>Outstanding Individual in Social Practice</b>		2022
<b>RoboMaster University Championship (Eastern Division)</b>	2nd Prize	2022
<b>RoboMaster University Championship (National)</b>	3rd Prize	2022
<b>Outstanding Teaching assistant</b>		2023
<b>National Undergraduate Electronic Design Contest (Shanghai Division)</b>	2nd Prize	2023
<b>Excellent Student</b>	<b>Top 1- 3%</b>	2023

## Skills

<b>Programming</b>	C/C++, Python, MATLAB, Julia, $\text{\LaTeX}$
<b>Software</b>	Simulink, Altium Designer, Kicad, Solidworks, Code Composer Studio
<b>Framework</b>	Numpy, Git, Anaconda, FORCEPRO, SNOPT, AMPL
<b>Platform</b>	Vicon Motion Capture System, Crazy File