

## Education

### Shanghaitech University

Shanghai, China

Bachelor of Engineering, Electronic Information engineering

Overall GPA-**3.81/4.0**, Major Rank-**2/55**, Overall Rank-**8/230**

Sep. 2021 - Present

## Publication

1. **Zhongtao Guan**, Jun Wan, Yu Liu\*, Dian Lu, Mengzhao Duan and Renke Huang. "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, Xinchun 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.

## Research Experience

### Power System Protection & Automation Laboratory

Mentors: Prof. Liu Yu

6.2022 – 8.2023

ShanghaiTech University

- Using single-ended measurement to locate faults on the mixed-transmission line.
- Design a low-Cost inverter with new types of devices for plugging renewable energy.

### Motor and Motion-Control Lab

Mentors: Prof. Chen Jiahao

8.2023–Present

ShanghaiTech University

- Mechanical Design and Control for quasi-direct-drive bipedal robot.
- Nonlinear B-controller: design and optimization for dynamical gain controller.

Ongoing

Ongoing

## Selected Projects and Competitions

### Robomaster

Robot Competition

9.2021-6.2022

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

### National Undergraduate Electronic Design Contest (Shanghai Division)

Individual Project

Summer 2023

- Realize single-phase-loop and close-loop control algorithms on STM32 microcontroller.
- Design related PCB use Altium Designer.

### Bandit Algorithm

Group Project

Autumn 2022

- 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 reach better performance.

## Work and Volunteer Experience

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### Electric Circuit

Head Teaching Assistant

Spring 2023

ShanghaiTech University

- Responsible to course recording, tutorial classes; set homeworks and corresponding answers.
- Collaborated with Professor Yu Liu on grading and exam supervision.
- 2023 SIST Outstanding Teaching Assistant.

### Volunteer Teaching in Yunnan

Volunteer Teacher

Spring 2022

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

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|---|-----------|------|
| <b>Outsanding Student</b>   | Top 3%    | 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>Outsanding Student</b>   | Top 1-2%  | 2023 |
| <b>Outstanding Individual in Industrial Practice</b>                        |           | 2023 |

## Courses and Skills

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### Coursework:

Introduction to Power Electronics, Probability and Statistics, Numerical Optimization, Introduction to Control, Introduction to Programming, Signals and Systems, Electric Circuit (as TA), Digital/Analog Circuit, Power System, Modern Woodworking Design and Practice

### Programming

C/C++, Python, MATLAB, AMPL, pygmo

### Software

Altium Designer, SolidWorks, Kicad, CCS

### Languages

Chinese (Native), English (Fluent)