Zhongtao Guan

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Education

Shanghaitech University   *09. 2021 - Present*
Shanghai, China
School of Information Science and Technology
Bachelor of Engineering, Electronic Information Engineering
Overall GPA: **3.81/4.0**, Major rank: **2/55**, Overall rank: **8/230**

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), Orlando, Florida, USA, 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 the 3rd IEEE International Conference on Industrial Electronics for Sustainable Energy Systems, Jul. 2023.

3. Mengzhao Duan, Yu Liu*, Ze Liu, Xinchen 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   *6.2022 – 8.2023*
Advisors: Prof. Yu Liu   *ShanghaiTech University*

- Develop a 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   *8.2023 – Present*
Advisors: Prof. Jiahao Chen   *ShanghaiTech University*

- Mechanical design and control for quasi-direct-drive bipedal robot.   **Ongoing**
- Nonlinear B-controller: design and optimization for dynamical gain controller. **Ongoing**

Selected Projects and Competitions

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.

National Undergraduate Electronic Design Contest (Shanghai Division)   *Summer 2023*
Individual Project

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

Bandit Algorithm   *Autumn 2022*
Group Project

- Realize and compare the performance of ϵ-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

Electric Circuit   *Spring 2023*
Head Teaching Assistant   *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   *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

Outstanding Student	Top 3%	*2022*
Outstanding Individual in Social Practice		*2022*
RoboMaster University Championship (Eastern Division)	2nd Prize	*2022*
RoboMaster University Championship (National)	the 3rd Prize	*2022*
Outstanding Teaching Assistant		*2023*
National Undergraduate Electronic Design Contest (Shanghai Division)	2nd Prize	*2023*
Outstanding Student	Top 1-2%	*2023*
Outstanding Individual in Industrial Practice		*2023*

Courses and Skills

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, Numpy, Scipy, Pandas

Software

Altium Designer, SolidWorks, KiCad, CCS

Languages

Chinese (Native), English (Fluent)