

Yang Zhao

Physics and Engineering Department
School of Natural and Applied Sciences

Taylor University

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Education

- Ph.D. in Electrical Engineering 8/2013-8/2019
Cleveland State University, Cleveland, Ohio, USA
- M.S. in Electrical Engineering 1/2010-8/2013
Cleveland State University, Cleveland, Ohio, USA
- B.S. in Electrical Engineering 9/2005-7/2009
Shenyang University of Technology, Liaoning, China

Experience

- Assistant Professor 8/2019-present
Taylor University
 - Teach Advanced Electronics and Microcircuits Fall 2019
 - Co-teach Introduction to Electric Circuits Fall 2019
- Instructor Electronic 3D Printing Laboratory 1/2018-5/2019
Cleveland State University, Cleveland, Ohio
 - Presented lectures to undergraduate students
 - Taught students to design electronic circuits in AutoCAD
 - Instructed students to print electronic circuits using Aerosol Jet 200
 - Supervised students to test printed electronic circuits
 - Developed lab manuals, lecture notes, and assignments
- Instructor Electric Circuits Laboratory 8/2014-5/2019
Cleveland State University, Cleveland, Ohio
 - Delivered lectures to undergraduate students
 - Instruct student to design electric circuits
 - Taught students to operate electric devices
 - Prepared ABET assessments
- Teaching Assistant Electric Circuits Laboratory 5/2018-8/2018
Cleveland State University, Cleveland, Ohio
 - Developed online electric circuits laboratory courses based on OpenScope MZ and ADALM1000/2000
 - Performed electric circuits experiments and collected data using OpenScope MZ and ADALM1000/2000
 - Developed lab manuals for online electric circuits laboratory based on OpenScope MZ and ADALM1000/2000
- Power Electronics Design Engineer Intern 5/2017-8/2017
Core Technology Inc., Avon, Ohio 44011
 - Designed DC to DC power converters in Altium Designer
 - Developed DC to DC power converters on printed circuit boards (PCB)
 - Tested power conversion preformation of DC to DC power converters
- Teaching Assistant Electronics II 1/2013-5/2013
Cleveland State University, Cleveland, Ohio
 - Graded homework and projects for undergraduate students

- Designed a PID controller for the DC motor position system
- Designed an advanced controller for the DC motor position system
- Fabrication design of a piezo-resistive accelerometer
Cleveland State University, Cleveland, Ohio
- Designed the layout of the piezo-resistive accelerometer
- Simulated micromachining of the piezo-resistive accelerometer
- Developed 3D model of the piezo-resistive accelerometer

Skills

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|---------------------|---------------------|--------------------|
| ○ MATLAB/Simulink | ○ Cadence OrCAD | ○ AutoCAD |
| ○ Altium Designer | ○ Autodesk EAGLE | ○ Maple |
| ○ C/C# programming | ○ Assembly language | ○ PLC programming |
| ○ MEMS Pro CAD tool | ○ Tableau | ○ Microsoft Office |

Research Interests

- Advanced control systems and the applications to surface vehicles, electric motors, and power systems
- Specific control areas include back-stepping control, adaptive control, sliding mode control, active disturbance rejection control, and observer design
- Electronic additive manufacturing

Teaching Interests

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| ○ Electric/electronics circuits | ○ Control systems |
| ○ Power electronics | ○ PLC |
| ○ Technical Writing | ○ Linear systems |
| ○ General physics | ○ Computer programming |

Publications

- Yang Zhao, Lili Dong, “Robust Path-following Control of a Container Ship Based on Serret-Frenet Frame Transformation,” Journal of Marine Science and Technology, 2019, <https://doi.org/10.1007/s00773-019-00631-6>
- Yang Zhao, Lili Dong, “Robust Current and Speed Control of a Permanent Magnet Synchronous Motor Using SMC and ADRC,” in press, Control Theory and Technology, 2019
- Lili Dong, Anusree Mandali, Allen Morinec, Yang Zhao, “Active Disturbance Rejection Based Load Frequency Control and Voltage Regulation in Power Systems,” Control Theory and Technology, vol. 16, no. 4, pp. 335-349, November 2018
- Lili Dong, Yang Zhao, Renhai Yu, “Implementation of an Active Disturbance Rejection Controller on a Torsional Plant,” in Proceedings of 2017 Chinese Control Conference, Dalian, China, July 26-28, 2017, pp.4801-4806
- Yang Zhao, Lili Dong, “Robust Speed Control of a Permanent Magnet Synchronous Motor System,” in Proceedings of 2016 Chinese Control and Decision Conference, Yinchuan, China, May 28-30, 2016

Organizations

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| ○ Member of Institute of Electrical and Electronics Engineers (IEEE) | 8/2014-present |
| ○ Member of Eta Kappa Nu (HKN) Honor Society | 3/2015-present |

Services

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| ○ President of Epsilon Alpha Chapter of HKN honor society | 4/2016-4/2017 |
| ○ Vice President of Epsilon Alpha Chapter of HKN honor society | 4/2015-4/2016 |

Awards

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| ○ Outstanding HKN Member Award
Cleveland State University | 4/2017 |
| ○ Graduate Student Travel Award
Cleveland State University | 4/2016 |