Andrew Wintenberg

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Education

The University of Michigan, Ann Arbor - August 2018 - Present

- Ph.D. candidate in Electrical Engineering
- Advisors: Necmiye Ozay & Stephane Lafortune
- 4.00/4.00 GPA

The University of Tennessee, Knoxville - August 2014 - May 2018

- B.S. in Honors Electrical Engineering
- Double Major in Honors Mathematics
- 3.99/4.00 GPA

Relevant Experience

Research Assistant - 2018

Department of Electrical Engineering, The University of Tennessee, Knoxville.

- Worked under Dr. Seddik Djouadi developing Inertia Emulation controllers for microgrids

Teaching Assistant - 2018

- Assisted Dr. Remus Nicoara in teaching an abstract mathematics course to high school students as part of the Tennessee Governor's School For the Sciences and Engineering
- Lead discussion sections, graded homework, and aided in lectures

Undergraduate Research Assistant - 2016

Center for Ultra-Wide-Area Resilient Electric Energy Transmission Networks (CURENT) at The University of Tennessee, Knoxville.

- Researched and developed algorithm for Non-Intrusive Load Monitoring (NILM) and energy disaggregation using dictionary learning and signal-processing techniques
- Participated in summer REU

Undergraduate Research Assistant - 2015 - 2016

Department of Mathematics, The University of Tennessee, Knoxville.

- Independent research project under Dr. Remus Nicoara
- Researched Butson-type Hadamard matrices to develop an algorithm to generate these matrices for small dimensions

Engineering Technical Assistant - 2014 - 2015

Advanced Plasma Products, Inc. Lenoir City, TN.

- Worked part-time aiding engineers in the development and testing of an experimental disinfection device using atmospheric plasma
- Implemented user interface and control software for the device

Publications

A. Wintenberg, N. Ozay. *Implicit Invariant Sets for High-Dimensional Switched Affine Systems.* Accepted to the IEEE Conference on Decision and Control 2020.
S. Mohajerani, R. Malik, A. Wintenberg, S. Lafortune, N. Ozay, N. Ozay. *Divergent Stutter Bisimulation Abstraction for Controller Synthesis in Continuous State Spaces.* Submitted to Automatica. Under review.
S. Morovati, Y. Zhang, S. Djouadi, K. Tomsovic, A. Wintenberg, M. Olama. *Robust Output Feedback Control Design for Inertia Emulation by Wind Turbine Generators.* Submitted to IEEE Transactions on Power Systems. Under Review

Presentations

A. Wintenberg, A. Rahimpour, H. Qi. *Energy Disaggregation Using Convolutional Sparse Coding.* UTK CURRENT NSF & DOE Site Visit 2016. Poster Presentation.
A. Wintenberg, T. Hobson, J. Massengil, T. Lam, A. McEver. *Tile Sensor.* UTK EECS Senior Design Poster Presentation, May 2017.
A. Wintenberg, Remus Nicoara. *Butson Hadamard Matrices*. UTK Undergraduate Math Conference, April 2018.

Awards & Honors

University of Michigan ECE Departmental Fellowship 2018
Dean's List UTK Summa Cum Laude Fall 2014 - Spring 2018
Allen Medal Math Competition UTK 1st Place 2015
Recipient of the UTK Min H. Kao Scholarship 2015, 2016, 2017
Recipient of the UTK Cooper D. Schmitt Scholarship 2015, 2016, 2017
Recipient of the UTK Dr. Glenn R. and Elise I. Young Scholarship 2017
Recipient of the Goldwater Scholarship 2017
1st Place 2017 Roborage Robotics Competition (Engineer's Day UTK)

Skills

Programming Languages - Java, C, C++, Mathematica, Matlab, Python, Javascript, Labview
Proficiency in LaTex typesetting
Proficiency in microcontroller development - AVR, Atmel Studio, Esp8266
Proficiency in 2D/3D computer graphics and modeling - OpenGL, Blender

Memberships

Tau Beta Pi - The Engineering Honor Society
Pi Mu Epsilon - Honorary National Mathematics Society
Phi Kappa Phi - Honor Society