

Education **North Carolina State University (NCSU)** Doctor of Philosophy Student in Electrical Engineering, Raleigh, North Carolina, USA
GPA: **3.95/4.0** | Anticipated Completion Date: May 2019.
Murray State University (MSU) Bachelors of Science in Engineering, Murray, Kentucky, USA
GPA: **3.86/4.0** | Graduation Date: May 2015.
Honors Thesis: “An Indirect Method for Maximum Power Point Tracking for Photovoltaic Arrays”

Experience

2015 - Present **Graduate Research Assistant**, NSF FREEDM Systems Center, Department of Electrical Engineering, NCSU.
• Research and design of the Solid State Transformer (SST) topologies under Dr. Alex Huang.

Summer of 2014 **Research Experience for Undergraduates**, Missouri University of Science & Technology, Rolla, MO, USA.
• Designed Battery Management System (BMS) for use with multiple battery chemistries.

Summers of 2012 & 2013 **Intern**, General Electric (GE) in Madisonville, KY, USA.
• Studied cost reduction opportunities and employed safer work environments.
• Analyzed data to reduce costs for grind wheels and reduce safety hazards due to storage crates.
• Co-led a team to redesign and implement a new back flush system.

2012 -2015 **Teaching Assistant**, Institute of Engineering, College of Engineering, MSU.
• Facilitated and graded labs.
(1) Circuits (2) Electricity, Magnetism, and Light Physics (3) General Physics

2010-2015 **Research Assistant**, Institute of Engineering, College of Engineering, MSU.
• Tested and analyzed data to characterize solar arrays based on cell temperature.

2010-2015 **NSF McNair Scholar**, Institute of Engineering, College of Engineering, MSU.
• Researched, networked, and collaborated toward a doctorate degree in a nationally recognized organization.

2010-2015 **IEEE Robotics Competition Member**, Institute of Engineering, College of Engineering, MSU.
• Designed and troubleshot autonomous robots with various specifications for size and abilities in a team.

Professional Qualifications and Honors

- **NSF Graduate Research Fellowship Recipient (GRFP)** – (2016-Present)
 - Responsible Conduct of Research (RCR) Certified – (2016)
 - NCSU Provost Doctoral Fellowship – (2015-2016)
 - NCSU Graduate School Diversity Fellowship – (2015-2016)
 - NCSU Graduate Merit Award – (2015-2016)
 - IEEE Larry K. Wilson Regional Student Activities Award Recipient – (2015)
 - Summa Cum Laude, Murray State University – (2015)
 - Outstanding Senior, Institute of Engineering, Murray State University – (2015)
 - NSF McNair Scholar – (2010-2015)
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Publications

- [1] Leedy, A.W.; [Garcia, K.E.](#), “**An Indirect Method for Maximum Power Point Tracking for Photovoltaic Arrays**”, Proceedings of the 3rd IEEE International Conference of Renewable Energy Research and Applications (ICRERA), Milwaukee, WI, October 19-22, 2014.
Orally presented at ICRERA.
- [2] Leedy, A.W.; [Garcia, K.E.](#), “**Approximation of P-V Characteristic Curves for Use in Maximum Power Point Tracking Algorithms**”, Proceedings of the 45th IEEE Southeastern Symposium on System Theory (SSST), Baylor University, Waco, TX, March 11-13, 2013, pp. 88-93.
Orally presented at SSST.

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- Presentations**
- [1] Leedy, A.W.; Garcia, K.E.; Booth, R.E., “**Autonomous Road Trip Game Robot**”, Presented at the 19th Annual KY Experimental Program to Stimulate Competitive Research (EPSCoR) Conference, Marriott Griffin Gate Resort, Lexington, KY, May 22, 2015.
 - [2] Garcia, K.E.; Mueller, J.; Kimball, J.W., “**A Battery Management System for Use with Multiple Battery Chemistries**”, Presented at the Research Experience for Undergraduates (REU) Symposium, Missouri University of Science and Technology, Rolla, MO, July 30, 2014.
 - [3] Leedy, A.W.; Garcia, K.E.; Mattingly, K., “**Autonomous Classification Robot**”, Presented at the 18th Annual KY Experimental Program to Stimulate Competitive Research (EPSCoR) Conference, University of Louisville, Shelby Campus, Louisville, KY, October 17, 2013.
 - [4] Leedy, A.W.; Garcia, K.E., “**Fourth Order P-V Characteristic Curves for Maximum Power Point Tracking**”, Presented at the 10th Annual MSU - UTM Sigma Xi Symposium, Murray State University, Murray, KY, April 16, 2012.
 - [5] Leedy, A.W.; Garcia, K.E., “**Characteristic Curves Used For Solar Powered System Modeling**”, Presented at the 9th Annual MSU - UTM Sigma Xi Symposium, UT-Martin, Martin, TN, March 5, 2011.
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- Professional Organization and Leadership Positions**
- Institute of Electronics and Electrical Engineers (IEEE)
 - FREEDM Student Leadership Council (SLC) President (2017)
 - FREEDM SLC Student Affairs Chair (2015-2016)