

MINDA J. WAGENMAKER

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EDUCATION

2019 – 2021	M.S. in Mechanical Engineering, <i>University of Illinois at Urbana-Champaign</i> GPA: 3.83/4.00
2015 – 2019	B.S. in Mechanical Engineering, <i>University of Alabama at Tuscaloosa</i> GPA: 4.00/4.00

SKILLS & ABILITIES

Matlab, Simulink, LabVIEW, C++, OpenCV, Python, ROS, Fortran, SQL, SolidWorks, AutoCAD, ANSYS, GT-Power, Lumerical FDTD, HyperMesh

EXPERIENCE

2019 – Present	Graduate Research Assistant , Center for Power Optimization of Electro-Thermal Systems, <i>University of Illinois</i> <ul style="list-style-type: none">• Modelling electro-thermal systems in Simulink and as graph-based models to be used for Model Predictive Control. Performing the verification and validation of those models• Designing methodology for analytically calculating the dynamic sensitivity of a graph-based model to optimize the co-design of the plant and controller
2020 – Present	Graduate Student Intern , <i>CU Aerospace</i> <ul style="list-style-type: none">• Developing thermal analysis software tools in Simulink for system design
Summer 2019	Graduate Student Intern , <i>Southwest Research Institute</i> <ul style="list-style-type: none">• Built an integrated system with ROS Industrial to path plan the robot's motion for an automated layup procedure of a flexible, carbon-fiber material for aerospace applications
2018 – 2019	Steering System Lead , ASME Human Powered Vehicle Competition, <i>University of Alabama</i> <ul style="list-style-type: none">• Designed and manufactured a recumbent bicycle, which won 5th place for design
2017 – 2019	Student Researcher , Engines Combustion Lab, <i>University of Alabama</i> <ul style="list-style-type: none">• Developed an educational LabVIEW program to control an engine dynamometer for labs• Developed an integrated dynamometer and diesel engine controls systems with PID gain scheduling and feedforward active disturbance rejection to improve and allow for better standardization of diesel engine emission certifications
Summer 2018	Research Assistant , Powertrain Control Lab, <i>University of Michigan</i> <ul style="list-style-type: none">• Designed gear shift strategies to optimize fuel efficiency for a 2015 Ford Escape model with an electrically assisted variable speed supercharger (EAVS)

ACADEMIC HONORS AND AWARDS

2019	Outstanding Senior, Computer-Based Honors Program Outstanding Senior in Mechanical Engineering, Capstone Engineering Society Best Senior Design Project, Mechanical Engineering
2018	Outstanding Junior, Computer-Based Honors Program
2016	Freshman Academic Excellence, Mechanical Engineering Department