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# Daniel Stephens

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## Education

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<b>PhD Naval Architecture and Marine Engineering</b> University of Michigan – Ann Arbor, MI	Exp: 2025
<b>MSE Naval Architecture and Marine Engineering</b> University of Michigan – Ann Arbor, MI	April 2022 GPA: 3.84/4.0
<b>B.S. Mechanical Engineering</b> University of North Florida – Jacksonville, FL	April 2014 GPA: 3.39/4.0
<b>Engineer in Training Certificate, FBPE</b> EIT Number : 1100019282	July 2015
<b>Tau Beta Pi Member – Michigan Gamma</b>	Fall 2021

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## Professional Experience

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### University of Michigan – Ann Arbor, MI

PhD Student, 8/2022 – Present

*Functioning as a Graduate Student Research Assistant (GSRA) towards completing a PhD with a focus on battery State of Health (SoH) estimation and Battery Thermal Management System (BTMS) operation.*

- Created coupled 1-D electrochemical model and 3-D heat transfer model to simulate battery cell charge and discharge characteristics.
- Developed test plan to capture thermal signatures of a battery cell at varied C-rates.
- Designing methodology for robust SoH estimation for in operation battery module.

### DENSO International America, Inc. – Southfield, MI

Design Engineer, 2/2017 – 8/2022

*Operated as a design engineer to develop automotive heat exchanger and thermal system components.*

- Lead design engineer for heat pump module on flagship truck platform BEV application
  - Utilized Design for Six Sigma process for mounting bracket design improvement
  - Collaborated with Japanese HQ to gain agreement between Japan and Customer
  - Created ANSYS Modal model for customer bracket evaluation
  - Used ANSYS Mechanical for component strength analysis
- Lead design engineer responsible for the engine cooling module of large SUV
  - Lead customer interface and worked with customer engineers on design development
  - Worked with component team on heat exchanger design to meet requirements
  - Authored DVPR and responsible for design validation test plan
  - Oversaw vibration test set-up, performance, and analysis
  - Created GD&T drawing for final assembly
  - Responsible for assembly tolerance stack-up analysis
  - Collaborated with Process Engineers on process improvement and DFM items
- Responsible design engineer for large heat exchangers used in a heavy-duty truck line
  - Planned and executed DV testing, analyzed test results for conformance
  - Created and released mass production drawings for complex injection molded plastic
  - Organized and analyzed data received from customer during vehicle testing
  - Performed fatigue analysis from strain gauge testing using rain flow counting

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**Johnson and Johnson Vision Care R&D - Jacksonville, FL**

Project Engineer, 2/2016 – 12/2016

*Functioned as a core member on a multidisciplinary team to design and develop an automated 3D printing machine utilizing innovative technology to manufacture custom contact lenses*

- Led project management effort to design proof of principle lab equipment
  - Developed and reviewed mechanical, electrical, and safety requirements.
  - Approved parts selection and machine drawing packages
- Provided mechanical design support for lab equipment and experimental arrangements.
- Worked with Quality Engineering team to follow the GAMP process to develop documentation.
  - Managed User Requirements documents, Functional Design documents, and Detail Design documents totaling over 2,000 pages of documentation.
  - Managed and tracked more than 5,300 traceable project requirements.
  - Mapped full manufacturing process layout and developed project FMEA and risk analysis documentation.
- Logged and tracked over 1,000 action items to closure for a \$10MM project.

**Sabre Technologies - Jacksonville, FL**

Mechanical Engineer, 9/2014 - 12/2015

*Operated as a multifaceted engineer to design custom products, reverse engineer complex machinery, and analyze data from purpose-built race cars.*

- Installed, maintained, and utilized data acquisition systems on a variety of race car applications.
  - Installed data systems including the data logger, sensors, cables, and signal converters.
  - Created customized analysis graphs and communicated data feedback to Drivers and Crew Chiefs on vehicle operation and driver performance.
- Modeled industrial rebar mesh manufacturing process using SOLIDWORKS
  - Modeled existing parts in 3D from 2D drawings and designed new components
  - Assembled thousands of parts in SOLIDWORKS to create functional models
- Utilized 3D laser scanning technology to reverse engineer a variety of components.
  - Scanned and modeled complex jet engine check valve plunger.
  - Used 3D laser scanner to reverse engineer a complex shifter fork for antique racecars.

**Formula SAE Experience - Jacksonville, FL**

Mechanical Engineering Student, 8/2010 - 4/2014

*Studied Mechanical Engineering curriculum while participating in design and manufacturing activities on the Formula SAE team.*

- Participated in Formula SAE holding various leadership roles
  - Leadership roles: Powertrain System Lead, Lubrication Design Lead, PR Officer
- In charge of dry sump oil system and ECU fuel control tuning

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**Skills (Talents, Professional Skills, Highlights, Core Competencies)**

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- COMSOL, SOLIDWORKS, Siemens NX, Rhino, ANSYS Mechanical, MATLAB, Microsoft Office