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## Education

### **Master of Science – Mechanical Engineering**

**University of Michigan – Ann Arbor (2024) – GPA 4.0**

### **Bachelor of Science – Mechanical Engineering**

#### **Certificates in Mathematics and Physics**

**University of Wisconsin–Madison (2016) – GPA 3.51**

Funded by Merit Scholarships, Miami Dade/UW-Madison Articulation Agreement and Center for Education Opportunity (CEO)

### **Associates of Arts – Mechanical Engineering**

**Miami Dade College–North (2011) – GPA 3.89**

Funded by Miami Dade Honor's Program and FAFSA

## Study Abroad

### **Zhenjiang University (Hangzhou, China)**

**Summer 2012**

Coursework: Thermodynamics, Technical Communications, and Introduction to Mandarin

Gained familiarity with the Chinese culture and value-system. Developed a broader set of communication skills that enable me to engage with a wider variety of personalities and belief systems.

Funded by Chou Kuo-Ping Scholarship and Miami Dade/UW-Madison Articulation Agreement.

## Work Experience

### **HEV-Controls Integration Engineer**

**Sep 2019 – Sep 2023**

#### **Ford Motor Company (Detroit, MI)**

- Develop and execute test plan to validate EV-Thermal Management System attributes on prototype vehicles.
- Lead discussions with functional teams to fix open software/drivability bugs found through Warranty & Connected Vehicle Data.
- Facilitate development of power-split hybrid vehicle prototypes at production facilities to achieve green/contained milestone statuses on new gen programs.
- Develop standard work processes to streamline workflow between controls team and production plants globally.

### **Product Development Engineer – Ford Rotational Program**

**Sep 2016 – Sep 2019**

#### **Ford Motor Company (Detroit, MI)**

- Program Management Team – Facilitated development of 450+ vehicle prototypes at production facilities, ensuring successful manufacturing operations ramp up of the new gen Ford Escape/Lincoln Corsair programs.
- HEV Controls Integration – Oversaw software delivery for power-split HEVs in Ford North America and Europe. Supported conflict resolution of software related issues during the Launch of the 2019 Fusion FHEV and PHEV in North America and Europe.
- HEV Battery Cell Integration – Benchmarked supplier's HV-battery pack to understand the thermal capabilities of their new technologies. Developed baseline design guide flow chart for HV Battery pack Temperature requirements.
- Powertrain Cooling D&R – Worked with supplier to meet design requirements under dynamic and static loads while maintaining cooling system architecture integrity.
- HEV Thermal Controls – Designed and executed study on hybrid electric vehicles cooling system to understand the effects of underbody heat pick-up.

## Undergraduate Work Experience

### **Electric Systems Engineer Co-Op**

*Fall-2014, Summer-2015, Fall-2015*

#### **UTC Aerospace Systems (Rockford, IL)**

- Electric Systems, Thermal Analysis – Post-process test data and executed thermal model validation on electric motors and other power electronic components. Provided test support to all Electric Systems Department (*Fall-2015*).
- Electric Systems, Quality Inspection Clinic – Delivered quality support, evaluated, and tracked nonconforming material on products assembled and tested by Electric Systems (*Summer-2015*).
- Electric Systems, Power Electronics – Initiated design changes for cross-disciplinary programs and processes. Developed Standard Work Processes for the usage of water sealant on unused harness pin-connectors for the Electric Systems Department. Analyzed and post-processed data on JSF135 dual vane-pump hysteresis and step-response test (*Fall-2014*).

### **Product Development Engineer Co-Op**

**May 2013 – Dec 2013**

#### **Universal Acoustics & Emissions Technologies (Stoughton, WI)**

- Translated a Command-Prompt tool into Excel-Macros for sizing and attenuation of vent-silencers series.
- Developed a system of pressure drop equations for choked and non-choked flow to enable the engineering team to better sound attenuation predictions.

### **Tutor/ Peer-Instructor**

**Feb 2012 – May 2015**

#### **Undergraduate Learning Center – UW-Madison (Madison, WI)**

- Tutor: Aided students in the subjects of Thermodynamics and Heat Transfer.
- Peer Instructor: Enhanced student learning in Mechanics (statics/dynamics) by organizing and leading weekly supplementary instruction sessions focused on team-work and problem-solving skills.

### **Engineer Assistant**

**Apr 2007–Sep 2007**

#### **Aerospace Aircrafts (Miami, FL)**

- Developed teamwork capabilities by working on a staff of twenty individuals in aircraft disassembly.

## Relevant Computer Skills and Course Work

- Maple, Visual Basic, EES, MATLAB, NX, ANSYS, Molde X, COMSOL Multiphysics, ATI, CANalyzer
- Adv. Heat Transfer, Thermodynamics I, II, III, Thermal System Modeling, Thermal Physics, Fluid Dynamics, E-chem App & Eng., Fundamentals-of-Modeling-Thermal-Transport-and-Kinetics in Solar-Thermal/Fuel and E-chem Sys., Computational Fluids Dynamics (C.F.D), Thermal and Structural FEA, Measurements Laboratory, Power Conversion, Geometric Modeling, Dynamic Systems, Theory of Probability.

## Activities/Awards

- Operation Good Cheer volunteer
- Badgers for Ecuador Co-founder
- Pi Tau Sigma, International Mechanical Engineering Honor Society
- Chou Kuo-Ping – Scholarship
- Miami Dade/UW-Madison Articulation Agreement Recipient (Out-of-State tuition waived)
- Center for Education Opportunity (CEO) Recipient
- Congressional Hispanic Caucus Institute (CHCI) Scholarship
- Habitat for Humanity volunteer
- Academic Excellence Award 2011 – 2012 *Mathematics and Engineering*
- President's Service Award, *Silver Award May 2010*

## Additional

- Dual Citizen – Ecuador & United States
- Likes Dancing – goes to Salsa/bachata classes or events
- Hobbies – cooking, traveling, hiking, soccer, kayaking, camping
- Outgoing with a passion to step out of the box, and learn new practices/ techniques
- Native Spanish speaker