Sebastián Arrazola

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Education

A. James Clark School of Engineering, University of Maryland **May 2016**
B.S. Mechanical Engineering GPA 3.07
• Dean's List: Fall 2015, Spring 2016
• Course highlights: Computer-Aided Design, Heat Transfer, Electronics & Instrumentation, Vibrations & Controls, Automotive Design Theory, Vehicle Dynamics, and Fundamentals of Internal Combustion Engines

Skills

Engineering: ANSYS, Arduino, Autodesk Inventor, Catia, Creo Parametric, EES, Komodo Edit (Java Script), Matlab, Processing 3 (Java), PSpice, Siemens NX, SolidWorks

Laboratory: 3D Printing Rapid Prototyping, Control Systems Building, Circuit Board Prototyping, Lathe, Flight Control, LabVIEW, LCR & DC Leakage Electrical Measurements for Capacitors, Mill, Programmable Logic Boards, Ricardo WAVE 1-D engine/ gas dynamics simulation, Robotics, Simulink

Other: Fluent in Spanish

Relevant Experience

Center for Advanced Life Cycle Engineering **Jan. 2016—Present**
Research Intern College Park, MD
• Analyzed degradation of tantalum capacitors due to humidity and thermal exposure.
• Manually collected LCR and DC Leakage electrical measurements routinely and logged them in excel for examination.
• Aided in streamlining (automating) test data acquisition via implementation of LabVIEW controlled multiplexers connected to the LCR and DCL measurement devices, as well as Thermocouples and humidity sensors inside of test chambers which continuously stressed hundreds of tantalum capacitors.

Formula SAE **Sep. 2015—Present**
Powertrain Team Member College Park, MD
• Calibrated fuel map on the ECU (PE3) tuning software to best suit the driver's required engine response.
• Reverse Engineered the current "Honda CBR-600RR" engine by disassembling and reconstructing the power plant, while documenting an engine rebuild manual, highlighting material concerning the team.
• Designed Oil pan for better manufacturability, serviceability, and performance. New single piece design maintains the manufacturer's suggested flow rate, while offering a 30% weight reduction and 20% cost reduction per unit, since it requires less processes.
• Evaluated the structural integrity of the motor support links on the oil pan using FEA suite on SolidWorks
• Researched new gasket material that can be laser cut for ease of manufacturing and designed a gasket that would substitute the current liquid sealing compound used on the oil pan.

Table Top Electronic HVAC Project **April 2015**
Project Designer and Developer College Park, MD
• Independent research and design of thermocouple HVAC system for electronics & instrumentation class.
• Designed electronic circuitry on PSpice.
• Built device housing out of sheet metal and AC rectifying circuit for DC power supply to the Peltier thermocouples.
• Executed an Arduino program that actuated Peltier modules to heat or cool, controlled fans speed, and acquired temperature data using thermistors to maintain a user defined temperature.

Work Experience

Red Lobster **July 2010—Present**
Server Gaithersburg, MD
• Fast-paced work environment, work 20 hours per week while attending school.

Herson's Honda **July 2011—January 2013**
Mechanic Technician Rockville, MD
• Automotive Repair & Service
• Light manufacturing experience

Membership & Affiliations

• **American Society of Mechanical Engineers**—*Lounge Manager* **Spring 2015—Present**
• **Society of Hispanic Professional Engineers**—*Active Member* **Fall 2015—Present**
• **Society of Automotive Engineers**—*Active Member* **Fall 2015—Present**