Andrew D. Barnett

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Objective

I am a passionate and determined first year graduate student at Clemson Universty's International Center for Automotive Research. Currently, I'm pursuing internships in autonomy in the hopes of providing a safe and sustainable future for human mobility.

Education

Clemson University, CU-ICAR, M.S. Automotive Engineering. **Greenville, SC**
Fall 2019 – Current
Expected Graduation: Spring 2021

Michigan State University, College of Engineering, B.S. Mechanical Engineering. **East Lansing, MI**
Fall 2015 – Spring 2019
Graduated: Spring 2019, GPA: 3.1

Experience

Clemson University – *Research Assistant* **Greenville, SC**
Fall 2019 – Current

- Conduct research on road damage detection in the Collaborative Robotics and Automation Lab.
- Utilize an IMU to record and classify road damage data using a LSTM deep learning algorithm in MATLAB.
- Write MATLAB code which automates the accelerometer data segmentation process and transforms the data sequences into an acceptable data type for input to the LSTM algorithm.

ZF Friedrichshafen – *Systems Engineering Co-op* **Livonia, MI**
Summer 2019

- Designed and built leak test equipment for ZF's Integrated Brake Control system (IBC) to be tested on Fiat Chrysler Vehicles.
- Conducted and analyzed static leak, dynamic leak, and air injection tests for the second-generation IBC and compiled a fully comprehensive spreadsheet detailing new test procedures and results calculations for future co-ops and interns.
- Successfully led development and optimization of a data tool in VBA, which was used to configure vehicle software for data acquisition in a data mining program.
- Acquired meaningful hands-on electrical engineering skills through building and repairing Global A wiring harnesses.

RWTH-Aachen University – *Research Intern* **Aachen, Germany**
Summer 2018

- Conducted research at the automotive institute IKA on active suspension systems and its applications to modern automobiles.
- Used MATLAB and Simulink to build a simulation of an active suspension system in order to provide a platform for machine learning implementation.
- Presented my project at the Undergraduate Research Opportunities Program (UROP) international research symposium.
- Traveled throughout Germany and other European countries, gaining an appreciation for the culture and language.

Projects

Fiat Chrysler Automobiles – *Capstone, Virtual Model of Tire Interface with Soft Soil* **East Lansing, MI**
Spring 2019

- Responsible for the implementation of a working car model into Adams/Car 2011 to interact with a soft soil surface.
- Responsible for construction and execution of all brake test simulations within the newly designed soft soil road surface model.
- Updated industry advisors on simulation parameters and analysis of simulation results.
- Discussed project plans and strategies with industry advisors in order to improve the effectiveness of each simulation.
- Compiled a comprehensive report documenting all test data and reported results to FCA.

Skills

Technical

- Expert in MATLAB
- Experience with deep learning toolbox in MATLAB
- Expert in SIMULINK
- Experienced with CAN interface
- Experienced in Adams Car
- Experienced in GT-Power
- Experienced in Visual Basic for Applications
- Experience in FEA (Altair Inspire)
- Proficient in Siemens NX
- Experienced in Autodesk Inventor
- Experienced in SolidWorks

Language

- Rudimentary understanding of the German Language

Awards

- Stäubli Fellowship, *Clemson University, 2019*
- Dean's List, *Michigan State University, 2015*

References Available Upon Request