

Andrew Voss

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Education: **Vanderbilt University: School of Engineering, Nashville, TN** May 2016
Bachelor of Science, Mechanical Engineering, Undergraduate Honors Program
Mechanical Engineering GPA: **3.93/4.0** Cumulative GPA: **3.72/4.0**

Relevant Fluid Mechanics, Machine Analysis & Design, System Dynamics, Mechanics of Materials

Coursework: Computational Fluid Dynamics, Finite Element Analysis, Airplane Aero, Mechatronics

Engineering **Vanderbilt Aerospace Team** Nashville, TN 2012-2016
Experience: *President*

- 3x NASA University Student Launch Initiative national champions (2013, 2014, 2015)
- 2015 NASA Student Launch Autonomous Ground Support Equipment Design Award
- 2x NASA Student Launch Website Design award (2014, 2015)
- 2013 NASA Student Launch Payload Design Award (air breathing subsonic ramjet engine)

SpaceX

Hawthorne, CA

2015

Vehicle Engineering Intern

- Designed, built, and programmed (in C) 20 dataloggers for evaluation of vehicle shipping loads at less than 1/5 the cost of off the shelf units while offering 16x the sampling rate capacity
- Modified datalogger firmware and hardware to interface with a camera monitoring system
- Wrote an automated report writer and presentation generator in MATLAB to increase the efficiency of the Coupled Loads Analysis performed for every mission
- Performed modal survey test of a full payload stack and subsequently correlated the finite element model of the stack to match the frequencies and mode shapes measured in the survey
- Responsible for the validation of the Mass Acceleration Curve with flight data, and introduced a more accurate and theory based method of estimating structural loads from flight data to validate the MAC
- Introduced Force Limited Vibration theory and methods to procedure for Random Vibration testing and analysis, as well as coding in MATLAB a GUI to estimate force limits from NASTRAN outputs

Design of Advanced Strain Energy Accumulator

Nashville, TN

Summer 2014-Current

Undergraduate Researcher-Laboratory for System Integrity and Reliability

- Developed 150 psi hydraulic test rig for proof-of-concept testing of Hydraulic Accumulator
- Engineered first ever Hydraulic Strain Energy Accumulator using Polypropylene
- Integrated multifaceted DAQ system for energy storage testing of accumulator prototype
- Designed and Manufactured pneumatic accumulators for use as exhaust gas recovery vehicles

Structural Health Monitoring of Boeing Composite Beams

Columbia, SC

Summer 2013

Undergraduate Researcher- Laboratory for Active Materials and Smart Sensors

- Destructive and Non-Destructive Evaluation of scarf joints in Carbon Fiber Composite Beams
- Subjected composite beams to 3 point flexural tests and evaluated failure modes
- Performed Electromechanical Impedance Spectroscopy and Pitch-Catch Wave Propagation tests on Beams under load using Piezoelectric Wafer Active Sensors
- Studied effects of acetone contamination on scarf joint specimen failure

Business **Two Fox Cold Brewed Coffees LLC**

Nashville, TN

2015-2016

Experience: *Co-Founder, Owner*

- Founded cold brew coffee brewing and delivery business
- Grew customer base by leading the company in sales and presenting at campus organizations

Engineering

Skills:

C++ || Java || MATLAB || LabVIEW || FEMAP || Pro-E || Excel || Microsoft Office || C
Lathe || Mill || Fluid Power || NASTRAN|| Structural Health Monitoring || ANSYS || COMSOL

Honors: McClesky Honors Scholarship || National Merit Scholarship || Engineering Honors Program