Jeffrey A. Houston

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OBJECTIVE: To secure a job working on electro-mechanical devices and mechanisms in the Northeastern United States region

EDUCATION:

Syracuse University, College of Engineering and Computer Science — August 2016 – May 2020
Bachelor of Science, Aerospace Engineering, GPA: 3.1
Syracuse University Abroad at Florence, Italy — January 2018 – May 2018

SKILLS:

Technical: SolidWorks, AutoCAD, Simulink, Femap, Ansys Fluent, Ansys Workbench, Microsoft Word, Excel, PowerPoint
Programming: MATLAB, Python

COURSEWORK:

Applications of Computational Fluid Dynamics (CFD)
Structural Finite Element Analysis (FEA)
Introduction to Computer Science and Programming Using Python
Aircraft Performance and Dynamics

ENGINEERING APPLICATIONS:

Aerospace Engineering Senior Design Competition, *Curriculum* — January 2020 – May 2020

- Developed parts and assembly of aircraft design in SolidWorks based on specifications used in conceptual design review
- Predicted the aircraft's weight and balance, stability, optimal size, and flight performance by developing MATLAB scripts
- Verified the assumed thrust by experimentally obtaining data for thrust-endurance curve of motor
- Verified structural stability by simulating wingtip loading tests using structural finite element analysis software

Syracuse University Bionics and Control Systems Laboratory, *Mechanical Design Engineer* — May 2019 – September 2019

- Developed mechanical design of exoskeleton suit to fit patients with paraplegia of all body types
- Created parts and assemblies with corresponding drawings of exoskeleton suit using proper GD&T in SolidWorks
- Updated parts and assembly overtime to better accommodate patients' comfort
- Fabricated parts for the exoskeleton with milling machine, bandsaw and CNC machine alongside professional machinists

Mechanical and Aerospace Laboratory, *Curriculum* — September 2018 – December 2018

- Measured aerodynamic forces in MATLAB on a Clark-Y airfoil mounted to a sting balance through use of a wind tunnel
- Investigated vortex shedding downstream of a cylinder with an accelerometer attached inside
- Compared three-dimensional flows and two-dimensional flows by measuring pressure induced drag on various cylinders
- Analyzed boundary layers around a cylinder and formation near the wall of the wind tunnel using a pitot-static tube rake
- Performed tensile stress testing on metals, plastics, and polymers on an MTS testing machine utilizing an extensometer to ultimately draw conclusions on each materials' physical properties based on their respective stress-strain curve
- Calculated natural frequency of a cantilever from fast Fourier transformations of data in the time domain using MATLAB

MIDI Controller Prototype Development, *Self-directed* — May 2018 – October 2019

- Designed musical instrument digital interface (MIDI) controller circuit on breadboard using an Arduino
- Wrote code in Arduino software to convert analog signal to digital form to be used with any digital audio workstation (DAW)
- Developed 3D printable electronics enclosure using SolidWorks to house components

WORK EXPERIENCE:

Forte Pizzeria & Ristorante, *Delivery Driver* — May 2017 – August 2018

- Drove deliveries to customers' location and assisted with in-restaurant responsibilities such as helping cooks and customers

Sorrento's Pizzeria, *Delivery Driver* — October 2015 – June 2016

- Took customers' orders in person and over the phone, prepared food, and delivered orders to the customers

LEADERSHIP/ACTIVITIES:

Society for Asian Scientists and Engineers (SASE), *Member* — September 2019 – May 2020
American Institute of Aeronautics and Astronautics (AIAA), *Member* — October 2017 – May 2020
The GREEN Program, *Participant* — June 2017 – July 2017

- Studied and compared forms of renewable energy at Reykjavík University throughout a two week program in Iceland

Boy Scouts of America, *Eagle Scout* — October 2004 – June 2016

- Completed Eagle Project for the Morris County Parks Commission
- Committed at least 10 hours per week to planning meetings and troop meetings
- Participated in National Youth Leadership Training camp
- Adopted multiple leadership positions such as Assistant Senior Patrol Leader and Patrol Leader