Jeffrey A. Houston

jehousto@syr.edu ◦ 856 E Broadway, Unit 3, South Boston, MA 02127 ◦ (908) 432-9369
jiffipop.github.io/portfolio ◦ linkedin.com/in/jeffreyalanhouston/

OBJECTIVE: To secure a mechanical engineering job in the New England region of the United States

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 Office Suite
Programming: MATLAB, Python, CSS, HTML

ENGINEERING APPLICATIONS:

Northrop Grumman, *Mechanical Engineering Co-op*   August 2020 – December 2020
- Simulated response of various electromechanical payload components to random vibration in Femap using acceleration spectral density (ASD)

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 through experimentally obtaining data for thrust-endurance curve of motor
- Verified structural stability by simulating wingtip and fuselage loading tests using structural finite element analysis software

Syracuse University Bionics and Control Systems Laboratory, *Mechanical Engineer*   May 2019 – September 2019
- Developed mechanical design of exoskeleton suit to fit patients of body types within 99% of the population in SolidWorks
- Designed and manufactured controls system testbed with actuation and measurement methods for joints in exoskeleton suit
- Created drawings and bill of materials for exoskeleton suit parts and assemblies using GD&T and DFM in SolidWorks
- Fabricated exoskeleton out of aluminum and 3D printed parts with milling machine, bandsaw, CNC machine and 3D printer
- Implemented speed controls with safety mechanism into treadmill using Simulink and MATLAB

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 by acquiring data from accelerometer attached
- 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
- Determined 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 2018
- Designed musical instrument digital interface (MIDI) controller circuit on breadboard using an Arduino
- Convert analog signal to digital via code written in Arduino software to be used with any digital audio workstation (DAW)
- Developed 3D printed electronics enclosure using SolidWorks to house components with DFA in mind

WORK EXPERIENCE:

Forte Pizzeria & Ristorante, *Delivery Driver*   May 2017 – August 2018
- Assisted with in-restaurant responsibilities such as helping cooks and customers and drove deliveries to customers' location

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 program in Iceland
- Presented research findings on recycling of animal waste for use in fertilizer for Capstone project

Boy Scouts of America, *Eagle Scout*   October 2004 – June 2016
- Adopted multiple leadership positions and participated in National Youth Leadership Training camp
- Committed ten hours per week to planning meetings and another ten hours per week to complete Eagle project