JEFFREY ALAN HOUSTON

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OBJECTIVE: Driven and bold professional seeking career advancement with an engineering role alongside focused and passionate colleagues to iteratively design, manufacture, and test new products in a fast-paced and dynamic environment.

PROFESSIONAL EXPERIENCE:

Byrna Technologies, Inc. **Andover, MA**
Mechanical Design Engineer ***February 2022 – Present***

- Designed 6 parts to be machined and injection molded at a 15% cost reduction to top-level BOM by simplifying, and optimizing parts for DFM/DFA
- Created a less-lethal ammunition consisting of 9 unique plastic injection molded parts for high volume manufacturing (>200k)
- Built and tested assemblies using 3D printed prototype parts in multiple materials to represent injection molded components
- Performed structural analysis for launcher parts using hand calculations, Creo Simulate, and SimScale FEA to validate part design
- Liaised with suppliers to implement DFM, ensure milestones are met on time, and resolve out-of-spec parts
- Implemented 30 new parts into production by creating 3D CAD models, 2D drawings with GD&T callouts (ASME Y14.5)
- Presented summaries and prepared reports of comprehensive product performance data by creating and maintaining test procedures and data templates to be executed by a dedicated testing team
- Led design review to acquire feedback from other engineers, supply chain, management, and external suppliers
- Led new product introduction (NPI) from concept to production to produce $0.5MM in sales within 1 year of product release
- Created prototype parts by modifying existing parts using drill press and grinding wheel

SCHNEEBERGER, Inc. **Woburn, MA**
Mechanical Engineer ***March 2021 – February 2022***

- Sized linear bearings for 20 customers based on expected external forces using hand calculations and proprietary FEA software
- Ensured customer-specific requirements (straightness, flatness, pitch, yaw) were met on new products via interferometry testing
- Reduced cost of optical fixtures/components by 70% by reverse-engineering components and redesigning supply chain
- Automated processing of thermocouple data by creating custom software application in Python
- Implemented design improvement to change linear encoder location based on customer feedback
- Maintained documentation by creating test procedures and assembly instructions for two 3-axis electromechanical systems
- Successfully troubleshooted various software (C#) and hardware issues with ACS Motion motor controllers (CMhp)
- Modified out-of-spec machined parts as needed and fabricated new sheet metal prototype by hand using milling machine
- Provided technical support on company's products to internal employees and external customers

Northrop Grumman Corporation **Azusa, CA**
Associate Aerospace Engineer - Pathways Program ***September 2020 – March 2021***

- Simulated acceleration spectral density (ASD) response of electromechanical components to random vibration in Femap
- Reduced time to create component level test specification (data inputted into a shaker table from FEM) by 80% by creating MATLAB algorithm to read in ASD data from Femap simulation, and output ASD data that meets shaker table and NASA's minimum workmanship specifications

Syracuse University Bionics and Control Systems Laboratory **Syracuse, NY**
Mechanical Design Engineer ***May 2019 – August 2019***

- Designed and fabricated mechanical frame for adjustable exoskeleton suit to fit any patient using extruded aluminum and 3D printed parts manufactured with milling machine, bandsaw, CNC machine and 3D printer
- Designed and built controls system testbed with servo actuation and encoder feedback to control joints in exoskeleton suit
- Calibrated and controlled modified treadmill motor using Simulink and MATLAB to implement emergency stop system

SKILLS:

CAD: PTC Creo (incl. Windchill), SolidWorks, Autodesk Inventor, AutoCAD, Keyshot
Technical: Creo Simulate, Ansys Fluent, Femap (NX Nastran), SimScale, Simulink, SPiiPlus MMI Application Studio
Programming: Python, MATLAB, CSS, HTML
Documentation: MS Office (Excel, Word, PowerPoint)

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

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

- Adopted multiple leadership positions and participated in National Youth Leadership Training camp