Back Bay
Boston, MA 02116

John R. Donahue III

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Project Portfolio and more information at: donahuejohn.com

Education

Northeastern University, Boston MA April 2022, GPA: 3.55

Candidate for Bachelor of Science in Mechanical Engineering and Physics
Candidate for Master of Science in Mechanical Engineering with Concentration in Mechatronics

Honors: 2018 Matianuck District Eagle Scout of the Year, Dean's Scholarship Recipient, Dean's List Scholar

Coursework: Graduate Microelectromechanical Systems, Fluid Mechanics, Heat Transfer, Thermodynamics, Mech. Eng. Computation and Design (FEA), Statics, Dynamics, Graduate Adv. Mechanics of Materials, Electronics, Modern Physics, Graduate Math Methods, Materials Science, Measurements and Analysis

Experience

SharkNinja – Needham, MA January 2020 – June 2020

Mechanical Engineering Co-op

- Designed, prototyped, and tested iterative models of electric motor assemblies and impellers to optimize airflow efficiency and performance based on CFD and experimental results from pressure mapping and air watts testing
- Leveraged both brushless DC motors and universal AC motors to meet the constraints of different projects
- Designed and built a new user interface/control prototype utilizing Arduino and sourcing my own components
- Prototyped various nozzle components using SolidWorks and rapid prototyping to improve the cleaning performance of an existing model of vacuum by 15% to address customer feedback alongside DFM and DFA criteria
- Worked remotely to design and build an agitation testing rig using an array of strain gauges and an oscilloscope to provide quantitative values for a complex performance criterion at up to 30,000 samples per second

Paradigm Hyperloop - Boston, MA September 2018 – Present

Mechanical Designer

- Co-led the design, Finite Element Analysis (FEA), and DMFEA of an aluminum pod chassis in SolidWorks to withstand acceleration to 300mph and a deceleration of 7g's with a factor of safety of 3 for the 2019 competition
- Co-led the research and design of a carbon fiber reinforced polymer (CFRP) chassis to provide structural support for subsystems while withstanding acceleration, braking, and vibrational forces for the postponed 2020 competition
- Initiating the research and design of the frame and shield of a tunnel boring machine to compete in The Boring Company's 2021 tunnel boring challenge

Northeastern University- Boston, MA August 2020 – Present

Undergraduate Teaching Assistant

- Teaching Assistant for course introducing algorithmic thinking and software such as MATLAB, Arduino, SolidWorks and C++

Urban AdvenTours - Boston, MA March 2019 – Present

Service and Retail Associate, Tour Guide

- Diagnosed problems and performed mechanical repairs ranging from flat tire fixes to entire drivetrain overhauls

Background

Software: SolidWorks, ANSYS, MATLAB, Arduino, Creo, AutoCAD, Autodesk Inventor, C++, Atlassian Suite (Jira and Confluence), Asana, GrabCAD, HTML

Skills: DFMEA, Soldering, 3D Printing, Lathe, Band Saw, Miter Saw, Drill Press, Table Saw, Power Tools

Certifications: Certified SolidWorks Associate (CSWA), Shimano T.E.C. Certified, American Red Cross First Aid/CPR/AED

Activities: Beta Gamma Epsilon Engineering Fraternity (2-term President), American Society of Mechanical Engineers, Paradigm Hyperloop & Paradigm Boring

Hobbies: Backpacking, Cycling, Running, DIY Home Improvement, Boston History