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EDUCATION

NORTHEASTERN UNIVERSITY Boston, MA

Expected June 2024

Bachelor of Science in Mechanical Engineering, Minor in Computer Science

GPA: 3.99/4.0

- **Distinctions:** University Honors Program, Dean's List for All Semesters, Honors Early Research Award
- **Relevant Courses:** Control Systems, Heat Transfer, Dynamics, ME Design, Materials Science, Thermodynamics

BUCKINGHAM BROWNE AND NICHOLS Cambridge, MA

Class of 2019

EXPERIENCE

Mechanical Engineering R&D Co-op

Boston, MA

SharkNinja

June 2022 – December 2022

- Led investigation to improve heat uniformity from hair dryers – identified poor uniformity in current units, helped redesign air heater and baffle that reduced temperature peaks by over 20°C from 180°C while increasing temperature troughs by over 10°C
- Designed flow adapters to measure air flow of new hairdryer prototypes and competitors with complex geometries using O-ring sealing to minimize leaks, verified by CFD and leak testing. Flow adapters implemented in final airflow measurement procedure
- Identified KPIs for new products and created new testing procedures, fixtures, and revamped outdated procedures for KPIs

Materials Engineer Co-op

Burlington, MA

Desktop Metal

July 2021 – December 2021

- [Led upgrade for R&D powder processing machine to automate temperature control system. The project included overall system design, modeling custom parts and 3-D printing](#), soldering and wiring, creating circuit diagrams, [a user manual](#), and SOP
- Performed a wide array of material characterization tests on 3-D printed metal parts and metal powder, including SEM, EDS, TGA, DSC, Tap Density, Cohesion, Tensile, Three-point bend, Modulus, and Hardness tests

Undergraduate Researcher

Boston, MA

Research Assistant in Directed Assembly of Particles and Suspensions Lab

January 2021 - June 2021

- Conducted investigation under PhD student to create a thermally conductive, 3-D printable composite filament that retains shape for the Army Research Laboratory, experimenting with filament made of different combinations of ABS and h-BN

PROJECTS

Hot Date Kitchen - Hardware Technical Lead

Boston, MA

Generate Product Development Club

August 2022 – December 2022

- Client requested a production-line prototype to autonomously slice medjool dates to upscale their business – selected to lead technical side of project with team of 7 engineers. Final product cut 30 dates per min, 2.5x the client's desired output
- Created 1:1 CAD model of entire system with functioning linkages and animations combining OTS and fabricated parts with 100+ joints and 72 unique components
- [Designed and assembled the electromechanical drive system, exterior frame, electronics selection, mounting, date entry and exit slides using sheet metal tool in CAD, and sorting system. Final product professionally handed off to client, report in progress](#)

Imagine Analog - Hardware Engineer

Boston, MA

Generate Product Development Club

January 2022 – May 2022

- [Client requested a multi-effects guitar pedal using FPAA technology – selected as one of two mechanical engineers on team. Final product controlled a distortion effect using industry-standard foot pedal mechanism professionally handed off to clients](#)
- Designed pedal-controlled amplification mechanism, electronics housing, mounts, and created full working model in Fusion 360

TECHNICAL SKILLS

- **Software:** SolidWorks CSWA Certified, Fusion360, ANSYS, MATLAB, Microsoft Excel
- **Material Characterization:** Tensile, 3-point bend, Modulus, Hardness, Cohesive Index, Tap Density, SEM, EDS, TGA, DSC
- **Programming:** Java, Javascript, Python, C++, SQL
- **Hardware:** Circuitry, FDM, SLA, MJF 3D Printers, CNC Milling, Sheet Metal