Ishaan Dwivedi

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EDUCATION

Northeastern University, Boston, MA — Graduation: April 2026
Bachelor of Science in Mechanical Engineering
GPA: 3.4
Relevant Courses: Thermal Systems, Engineering Project Management, Mechanics of Materials, Thermodynamics, Material Science, Fluid Mechanics, Electrical Engineering, Statics, Dynamics, System Analysis and Control
Activities: ASME, NU Robotics Club, Survivor NEU | **Honors:** Dean's List 2023-2025

SKILLS

Software/CAD: SOLIDWORKS, AutoCAD, Python, MATLAB, Microsoft Excel, Arduino IDE, Blender, C++, HTML
Manufacturing/Testing: 3D Printing (SLA/SLS/FDM), Prototyping, DAQ Systems, Vibration Analysis, Thermal Imaging, CT Scanning, Soldering, Laser Cutting

WORK EXPERIENCE

SharkNinja, Needham, MA — January - June 2025
NPD Engineer, Home Environment

- Constructed custom test rigs and ran motor balancing via DAQ to diagnose vibration issues on the Shark TurboBlade fan; used CT scanning to root-cause impeller imbalance
- Identified abuse tests leading to thermostat failure on tower heater; relocated and rewired thermostats using thermal imaging analysis, resolving a critical issue blocking product launch
- Designed and 3D-printed adapter components in SOLIDWORKS to transplant competitor motor assemblies for benchmarking airflow performance using balometer testing
- Redesigned product control flow documentation to simplify firmware logic, accelerating software development timeline for international engineering team

Rheem Manufacturing, Montgomery, AL — January - August 2024
Innovation Engineer

- Developed and modeled multiple patented solutions for HVAC-related issues with an international R&D team
- Debugged and streamlined models in a 300+ part SOLIDWORKS assembly over 4 months, ensuring successful launch of a new water heater cooling system
- Supported machine shop with 3D printing, sheet metal laser cutting, evaporator/compressor assembly, performance testing, and flow simulations
- Became R&D team's top expert on heating coil design, leading to a 2-month extension past typical co-op cycle

PROJECTS

Adjustable Resistance Bands (Capstone) — July - December 2025
Track 3 Award Winner - Best Overall Project

- Designed portable resistance band with 5-50 lb adjustable load using 4-stage gear train (8.1:1 ratio) and torsion spring mechanism
- Conducted FEA on PLA clasps and redesigned geometry to reduce stress concentrations by 25%; saved $900 by characterizing lower-cost springs
- Built and tested prototypes on Instron machine; validated linear force-displacement performance up to 50 lbs

NU Robotics Club Combat Bot — January 2023 - Present

- Designed and fabricated replacement chassis and baseplates in AutoCAD; laser cut parts to repair combat robots for competition