Rehan Devaravar

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LinkedIn ● Portfolio

Education

Northeastern University, Boston, MA — May 2025

Candidate for Bachelor of Science in Mechanical Engineering and Experience Design — **GPA: 3.61/4.00**

- Honors: Dean's Scholarship ($76,000)
- Relevant Coursework: ME Design, Solid/Fluid Mechanics, Thermodynamics, Materials Science, Statics, Dynamics
- Activities: Generate Product Development Studio, NUImpact

Technical Experience

Tesla Motors, Fremont, CA — January 2024 – June 2024

Mechanical Design Engineering Coop

- Managed the entire Semi truck interior lighting program with direct ownership of all 9 lighting assemblies
- Designed and optimized optical and mechanical features for 4 new injection molded lighting subsystems to increase illuminance of the interior cabin by 60%, all while reducing overall module count by 25%
- Validated optical performance with simulation data and multiple rounds of physical prototyping
- Collaborated with ID teams to execute data-driven CMF decisions to meet functional and styling requirements
- Applied thermal analysis to develop 3 packaging solution prototypes for electronic and mechanical components to ensure proper heat dissipation and lighting functionality

Toast, Boston, MA — January 2023 – June 2023

Mechanical Engineering Coop

- Led the concept design and CAD development of 8 custom CNC machined parts for an Instron test fixture
- Defined 2D specifications with appropriate tolerances, callouts, and BOMs for all machined parts and assemblies
- Supported product phase build inspections of 100+ DV/PV units through packaging and cosmetic evaluations as well as IK07, IPX4, and mechanical load compliance testing
- Conducted button tactility assessment across 80+ Toast devices to identify focal points for design improvement and increase tactility of handheld and countertop hardware by 107% and 79%, respectively

Nuvera Fuel Cells, Billerica, MA — January 2022 – August 2022

Mechanical Engineering Coop

- Determined optimal structure for a cell plate package to increase strength by 28% though FEA simulations and conducted CFD analysis on varying package sizes to measure pressure drops

Engineering and Research Projects

Generate Product Development Studio, Boston, MA — September 2022 – December 2023

Tech Lead, RoboUmp — *Fall 2023*

- Oversaw multiple mechanical subsystems while collaborating with hardware and software teams to develop a portable camera and computer system to track the accuracy of baseball pitches

Hardware Engineer, Tatum Robotics — *Spring 2023*

- Designed custom doorbell housings for integration with haptic feedback bracelet for deaf-blind homeowners

Hardware Engineer, Hot Date Kitchen — *Fall 2022*

- Developed automated mechanism for a date-cutting machine to orient 45 dates/min and boost manufacturability

Senior Design Capstone Project, Boston, MA — July 2024 – Present

Mechanical Engineer

- Managed the lead screw design and associated electronics/firmware for an automated pill counting mechanism

Skills and Interests

- **Applications:** SolidWorks (Part/Assembly Modeling, 2D Drawing, Simulation, Flow Simulation); CATIA v5/v6 (GSD, Part/Assembly Design); LucidShape; ANSYS (Mechanical, Fluent); Fusion360; Onshape; AutoCAD
- **Equipment:** Tormach CNC Mill; FDM, SLA 3D Printing; Instron; Standard Shop Tools & Soldering Equipment
- **Technical:** 2D/3D Design, Material Selection, Functional Dimensioning, Design for Injection Molding/Machining, Optical Design, Design for Assembly (DFA), FEA/CFD Analysis
- **Software:** MATLAB, Arduino, C++
- **Interests:** Golf, Weightlifting, Music, Robotics, History