SUPRATIM SHAUD

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EDUCATION

Northeastern University **Boston, MA**
Bachelor of Mechanical Engineering April 2028
Relevant Courses: Mechanics of Materials, Dynamics, Fluid Mechanics, Statics, Thermodynamics, Statistics, Engineering Cornerstone
Activities: Forge Product Development (Hardware Engineer), Northeastern Electric Racing (Powertrain Engineer), Northeastern Submarine Robotics (ROV Structural Engineer)

SKILLS

Software: AutoCAD, SolidWorks, CREO, C++, HTML, JavaScript, Arduino, Microsoft Excel, Microsoft Word
Manufacturing/DFM: 3D printing via PLA and Resin, CNC Machining, Waterjet, Microscopy

WORK EXPERIENCES

Byrna Technologies | *Mechanical Test Engineer Co-op* **Andover, MA** Jan 2025-Jun 2025

- Created a fast magazine speed loader system using 3D modeling in CREO Parametric and hands-on machining, incorporating a custom arbor press and projectile guide to optimize magazine loading for testing, reducing loading time by 75%
- Improved a less-lethal air gun magazine reloading system by 3D printing and post-processing prototype reloaders, rapidly iterating prints for fit and function, and implementing design changes to boost reliability, resulting in same-day turnout and smooth assembly
- Developed and released updated CAD models and technical drawings via the ECP process to coordinate revision for manufacture, leading to cleaner manufacturing documentation and lowering drawing-related manufacturing errors
- Designed and reverse-engineered custom manufacturing tools through CREO to reduce production cost, improved legacy factory tools to simplify part installation, and increased assembly efficiency for factory workers
- Validated designs through hot and cold launcher tests and First article inspection using Keyence, caliper, and pin gauge to identify failure mode to implement a fix to improve functionality and reliability of the product

Material Science and Testing Research | *Biomechanics Lab Researcher* **Burlington, MA** Sep 2024-Dec 2024

- Worked alongside Mechanical Engineers, Researchers, and Manufacturers to conduct high-strain-rate tests on soft materials to analyze data and inform manufacturing decisions to improve helmet performance
- Utilized manufacturing processes to prepare and test materials, ensuring consistency and accuracy in sample preparation and testing protocol, leading to more reliable data
- Utilize Microscopy to analyze material microstructure, identifying key structures that influence the mechanical properties and performance, providing insights for a guided material selection and performance improvement

ACADEMIC PROJECTS

Northeastern Electric Racing Team | *Powertrain Mechanical Engineer* **Boston, MA** Jan 2025-Present

- Coordinate with a Mechanical Engineer to manufacture a polycarbonate plate for the battery of the electric racing car, using waterjet cutting to improve the safety of the user
- Design and manufacture jigs for accurate and repeatable radiator mount assembly through the utilization of SolidWorks to reduce alignment error and reduce assembly time
- Investigate the efficiency of water vs. air cooling in a radiator to optimize the heat dissipation, providing insights that improve the thermal design and boost overall system efficiency

Cornerstone 2 | *Safety Machine Guard* **Boston, MA** Jan 2024-Apr 2024

- Combined with a team of 5 to test, design, and manufacture lightweight, durable switch holders, utilizing SolidWorks and Arduino, enhancing machine safety as an effective machine guard
- Developed a detailed CAD model and manufacturing for the switch holder, ensuring precision and efficiency during production while meeting the standard

Northeastern Robotics | *ROV Designer* **Boston, MA** Oct 2023-Dec 2023

- Researched materials for underwater use under high external pressure and selected Stainless Steel 304, ensuring structural integrity and long-term reliability under water
- Contributed to system testing and troubleshooting prototype, identifying the weakness in designs and recommending improvements to optimize the performance
- Designed protective housing and sealing method to prevent water exposure to onboard electronics, ensuring safe operation and system reliability underwater

INTERESTS

Languages: Bengali (fluent)
Interests: Football, Investing, App Development, Photography