

High-output Mechanical Engineer with 8 years of CAD design & modeling expertise. I manage the complete product lifecycle from design to implementation, specializing in project management, rapid prototyping, robotics, and industrial automation. I excel at turning complex concepts into field-ready products under tight constraints. I thrive under high pressure, leading cross-functional teams to deliver quality products under strict budgets and aggressive deadlines.

EDUCATION

WORCESTER POLYTECHNIC INSTITUTE, B.S. (GPA: 3.73) | Graduated with High Distinction

Worcester, MA

Major: B.S. in Mechanical Engineering (Concentrations: Robotics and Product Design),

August 2022–May 2026

Minor: International and Global Studies

Coursework: Dynamics of Mechanisms & Machines, Advanced Engineering Design, Computer-Aided Design, Engineering Experimentation, Heat Transfer, Fluid Dynamics, Thermodynamics, Dynamic Systems, Stress Analysis, Static Systems, Material Science

PROFESSIONAL EXPERIENCE

Freudenberg- NOK Sealing Technologies, Bristol, NH, Product Engineer Intern

May 2025-August 2025

- Drafted over 100 3d models and drawings for customers optimized for cost and production efficiency
- Designed parts for machines reducing downtime and scrap for multi-million part orders
- Collaborated with engineering team on process and inspection documentation

TECHNICAL SKILLS

- **Engineering:** Mechanical Systems Design & Assembly, Rapid Prototyping, Engineering Experimentation, Bench Testing, Stress Testing, Vibrations, CAD Design, Bill of Materials Development, Project Management, GD&T, DFM, DFA, Finite Element Analysis (FEA), Part Drawing Creation, Measurement and Data Analysis, Manufacturing, Material Selection, Pressure Analysis, Thermal Analysis, Aerodynamic Analysis, Technical Documentation
- **Tools:** SolidWorks (Certified), Onshape, ANSYS, SolidWorks Simulation, MATLAB, Python, Microsoft Office
- **Fabrication:** FDM 3D Printing, CNC Machining, Laser Cutting, Soldering, Injection Molding, Metal Stamping, Composites
- **Soft Skills:** Creative, Verbal Communication, Written Communication, Oral Communication, Team Leadership, Teamwork, Collaboration, Organization, Research, Analysis, Detail-oriented

SELECTED PROJECTS

Autonomous Agricultural Irrigation Drone System - Awarded Top 10 Project by ME Department

August 2025 – April 2026

- Project lead - developed system from concept to product
- Designed and fabricated airframe and landing gear with 8-motor propulsion system; 50 lb payload capacity
- Engineered modular water tank with automated refill system and battery-swapping interface for human-free operation
- Designed and integrated 2-axis gyroscopic gimbal for AI-based terrain mapping and flight path generation
- Performed simulations and calculations for air flow, gyroscopic camera mechanism, and fluid flow

Soft Robotics Lab Research - SoftSqueeze

March 2026 - May 2026

- Co-author of the manuscript "*SoftSqueeze - A Hydrostatic, Force-Driven Pressure Regulator For Controlled Contact Force in Soft Pneumatic Actuators*," currently in preparation for the IEEE ROBOSOFT Conference 2027
- Developed lightweight, sensorless hydrostatic regulator that replaces electronic air valves, utilizing fluid-filled pouches to autonomously modulate pneumatic grip force

Battlebots

August 2022 - Present

- Designed, machined, and assembled a 3 pound battlebot and competed in international robotics competitions
- Member of Team WPI, #1 collegiate combat robotics team in the world
- Presented design to executive board to ensure DFM & DFA practices were applied

Kinematics & Dynamics Research - piano mechanisms

May 2024 - July 2024

- Analyzed kinematics & dynamics for modifications to improve piano action mechanisms
- Designed piano in SolidWorks, improving the una corda pedal using magnets to change keyboard shift from variable state to single state and final state
- Conducted load simulations and magnetic force calculations

Soft Robotic Arm - for robot vacuum

January 2026 - March 2026

- Team lead - designed & built tendon-driven soft robotic extension system so robotic vacuum can reach constrained areas
- Designed vacuum system with compliant actuation structure - worm gear transmission, pulley system, and lead screw retraction mechanism
- Performed FEA on spring system for soft robotic arm
- Built stepper motor control system using Arduino and motor drivers for testing
- Presented project to SharkNinja engineers

Bluetooth Speaker Project - for helmet

October 2025 - December 2025

- Reverse engineered bluetooth speaker and designed adjustable helmet-mounted housing
- Fabricated enclosure, soldered electronics to PCB
- Presented project to Bose engineers

Mitigating Water Scarcity in Syros, Greece

August 2024 - December 2024

- Collaborated with the Cyclades Chamber of Commerce
- Conducted field interviews with local agricultural producers to assess regional water-use challenges
- Researched greywater recycling and conservation systems as potential solutions
- Published report and presented findings and recommendations to municipal leadership, including the mayor of Syros
- Developed water conservation outreach materials (booklet and brochure) for residents and visitors

LEADERSHIP AND VOLUNTEER EXPERIENCE

WPI Bionics Club - Mechanical Lead

January 2023 – Present

- Managed the design, manufacturing, and assembly of a 1:1 scale prosthetic arm with soft robotic hand
- Organized brainstorming sessions, quarterly goals, and tasks for team members
- Worked with sub-teams for electro-mechanical integration

WPI Makerspace - Lab Manager

January 2023 – Present

- Mentor students in design and manufacturing processes
- Assist with project development and troubleshooting in a hands-on shop environment
- Supervise safe operation of shop tools

WPI Cooking Club - President

August 2023 - Present

- Worked with Chartwells catering and executive chef to schedule use of kitchen and procure ingredients from suppliers
- Managed club budget
- Led weekly cooking sessions, preparing global dishes and teaching cooking skills
- Organized campus-wide cooking events to promote the club, coordinating large-scale meal preparation for the student community
- Grew club from 40 members to 400 members