Noah Silverman

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EDUCATION

Brown University, *M.S. Mechanical Engineering and Applied Mechanics* ***Expected Graduation May 2026***

Brown University, *B.S. Mechanical Engineering*, 4.0/4.0 GPA ***Sept 2021 – May 2025***

- **Relevant Courses:** Computational Methods in Structural Mechanics, Structural Analysis (FEM), Continuum Mechanics, Data-Driven Design and Analysis of Structures and Materials, Advanced Engineering Mechanics, Thermodynamics.
- **Activities:** Grad TA – Vibrations of Mechanical Systems; Undergrad – President/Captain Club Hockey, Peer Advisor.
- **Awards:** Sigma Xi - Scientific Research Honor Society (Inducted 2025).

ROBOTICS RESEARCH

Brown ACT Lab [Aerial robotics], *Researcher* ***Aug 2025 – Present***

- Prototyping a lightweight, robust system to facilitate mid-air drone assembly and integrating cascading PID, SMC, and MPC robotics control strategies for Automatic Coordination of Teams (ACT) Lab.
- Analyzed weight and strength of frame materials (13% under max weight); designed reliable assembly/disassembly method.

Athletek Labs [Mobile robotics startup], *Lead Mechanical Engineer* ***July 2025 – Present***

- Owning the hardware design and manufacturing for sports robotics and analytics startup.
- Selecting motors from calculated torque and system requirements, accounting for electrical power availability.

Vibrations of Mechanical Systems & Wilhelmus Lab [Mechatronics], *Researcher* ***Sept 2024 – Dec 2024***

- Designed an electromechanical shrimp leg to study locomotion dynamics in collaboration with 5 members.
- Owned design and development of prototype leg, fin, and solenoid covers to integrate electronic and dynamic systems.
- Implemented PID, and validated voice coil style actuation for compact, waterproof propulsion.

STUDENT DESIGN TEAM

Brown Formula Racing [FSAE]

Lead Aerodynamics Engineer ***May 2024 – May 2025***

- Led a team of 8 students in iterative design of an aerodynamics package of 100 components for the 2025 racecar.
- Conducted critical design reviews and collaborated with multidisciplinary teams to derive product requirements.
- Increased downforce by 23% by parametrically optimizing 80+ geometry variables using 2D and 3D CFD.
- Developed lift and drag validation test plans using wind tunnel and race data; quantified improvements in car performance.
- Managed composites testing, including mold design, CNC, vacuum bagging, and post-processing of 15 aero parts.

Lead Mechanical Engineer - Drivetrain ***May 2023 – May 2024***

- Designed a reliable drivetrain system from concept through validation for 2024 racecar.
- Developed CAD, CAE models and mechanical drawings for 75+ drivetrain components; held DFM reviews.
- Manufactured 15 custom components via CAM, CNC, and manual machines, including precision drivetrain hardware.
- Optimized drive ratio from mechanics and dynamics fundamentals, integrating with suspension to maximize torque output.
- Achieved 30% mounting mass reduction with 1.4 FOS in FEA under maximum load.

INDUSTRY EXPERIENCE

Vatn Systems [AUV], *Mechanical Engineering Intern* ***May 2024 – Aug 2024***

- Redesigned 11 shell and mounting components in the bow module to improve packaging, ballast speed and accuracy, and facilitate mission-critical payload integration for autonomous underwater vehicles in a fast-paced, startup environment.
- Improved impact resilience and hydrodynamic profile of masts housing navigation antennas.
- Gained hands-on experience prototyping 16 compliant resin masts with embedded electronics using injection molding and SLA/FDM 3D printed shells; integrated and assembled complex hardware on vessel.
- Identified 14% decrease in drag coefficient from CFD data; informed management decision on design tradeoffs for MVP.

ACS Industries, Inc. [Automotive manufacturing], *Mechanical Engineering Intern* ***May 2023 – Aug 2023***

- Created 9 detailed CAD parts to adapt a 50 component wire mesh manufacturing machine to accommodate larger products.
- Ran Instron non-destructive deflection tests to validate 300+ production exhaust components.

SKILLS

- **Software**: SolidWorks, Abaqus, Ansys, STAR-CCM+ (CFD), MATLAB, Python, Arduino IDE.
- **Manufacturing**: CNC & manual machining, composite layup, GD&T (ANSI Y-14.5), injection molding, DFM & tolerance analysis, rapid prototyping (SLA/FDM 3D printing).
- **Productivity Tools**: Google G-Suite, Microsoft Office, Trello, Slack, LaTeX.