

Matthew Sonn

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY

Mechanical Engineering; Aerospace Engineering minor | Cumulative GPA: 3.95

Anticipated Graduation: May 2027

Cherry Hill High School West, Cherry Hill, NJ

Valedictorian; National Honor Society President; 9 varsity athletic letters; Swim team captain; School record holder in swim GPA: 4.0/4.0 UW; 7.0/7.0 W | SAT: 1550 | AP Scholar with Distinction | Spanish National Honor Society Member

September 2019-June 2023

RELEVANT COURSEWORK

Spring 2025: Mechanical Design • Dynamics • Physics III: Oscillations, Waves, and Quantum Physics | **Fall 2025:** Mechanics of Engineering Materials • System Dynamics • Spaceflight Mechanics • Fluid Mechanics • Teaching and Learning Physics (Physics TA)

RELATED EXPERIENCE

Wick Fisher White Engineering

Junior Mechanical HVAC Engineer, Philadelphia, PA

May 2025 – August 2025

- Assisted in the design of mission-critical data center HVAC systems, including sizing and layout of CRAC units, redundancy planning, and detailed airflow management strategies to ensure reliability, energy efficiency, and 24/7 continuous operation.
- Performed detailed building load calculations using TRACE 3D to determine airflow, ventilation, and equipment sizing for large-scale commercial and mission-critical facilities. Used load calculations to make cost-conscious HVAC system design decisions
- Produced CAD and Revit models of HVAC systems while ensuring adherence to industry and firm-specific drafting standards
- Conducted site visits to evaluate construction and demolition progress, survey existing building systems, and identify opportunities for reuse in new design goals. Documented survey results in site visit reports and CAD documents.

Cornell Seismic Design Project Team

September 2023 ongoing

Dynamics Subteam Lead, Cornell University, Ithaca, NY

- Design and construct a lightweight (5 lbs), 20 story (5 ft tall) balsa wood building model resilient to seismic activity for an international undergraduate competition; Earned first place overall out of 41 competing universities in Spring of 2024
- Dynamics Subteam Lead: Lead the design, manufacturing, and testing of a mechanical building oscillation damper to be used in the 2026 EERI Seismic Design Competition and oversee the development of a proposal summarizing the damper's function
- Support the onboarding of new members by leading subteam meetings to teach key structural dynamics concepts, software tools, and analysis techniques—including driven oscillation physics, Fourier analysis, Fusion 360, and data processing in MATLAB

Cornell University Physics Department

August 2025 ongoing

Undergraduate Physics Teaching Assistant, Ithaca, NY

- Co-lead weekly discussion sections for physics and engineering majors, guiding problem-solving in Cornell's Physics II: Electromagnetism class and helping students strengthen their conceptual understanding of the course content
- Completed *Phys 4484: Teaching and Learning Physics*, a pedagogy course emphasizing active learning, leadership in small-group settings, and effective scientific communication. Directly applied these skills while co-leading physics discussion sections
- Collaborate with faculty and graduate instructors to align discussion materials with lecture content and course objectives

OTHER EXPERIENCE

Swim Coach and Pool Manager

May 2023– August 2024

Covered Bridge Swim Club and Lifetime Fitness, Cherry Hill, NJ | Mount Laurel, NJ

- Coached and organized swimming practices and meets for a competitive summer swimming team of 200 swimmers aged 5-18
- Lead and managed staff of 50 lifeguards and snack bar attendants to ensure smooth and safe daily operation at community pool

Host, Busser, Waiter

June 2020– December 2024

La Cita Authentic Mexican Restaurant, Cherry Hill, NJ

SKILLS

- Technical:** Proficiency in Fusion 360, AutoCAD, Revit, Python, MATLAB (ode45, Simulink), TRACE 3D, Microsoft Office

ACTIVITIES

Cornell Club Swimming Team | Cornell Lifeguard | Delta Chi Fraternity | DECA Business Services Marketing 2x NJ state champion