Sweksha Mehta

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LinkedIn | Engineering Portfolio

OBJECTIVE

Mechanical engineering student at Cornell with experience in CAD, FEA, and thermal integration. Passionate about high-performance engineering, precision manufacturing, and pushing mechanical limits through iterative development.

EDUCATION

Cornell University, Ithaca, NY **Expected May 2027**
B.S. Mechanical Engineering, Minor in Business, GPA: 3.58

- Relevant Courses: Introductory Fluid Mechanics, System Dynamics, Mechanics of Materials, Thermodynamics, Statics and Mechanics of Solids, Dynamics, Differential Equations, Mechanical Synthesis

PROFESSIONAL EXPERIENCE

Syncarpha Capital, New York City, NY, *Engineering Project Management Intern* **Jun 2025 - Aug 2025**

- Coordinated SLD development, engineering review processes for spec and drawing packages, and built cost certification tools to streamline renewable infrastructure milestone tracking
- Resolved as-built drawing variances with EPC, civil, and electrical teams, cutting permit approval delays by 12%

NASA L'SPACE Mission Concept Academy, Remote, *Thermal Engineer* **May 2025 - Aug 2025**

- Designed thermal subsystem in Siemens NX, integrated into full rover CAD assembly for Mars analog mission
- Conducted trade studies and thermal simulations to define subsystem requirements; contributed to TRL analysis and thermal mapping for pre-Phase A review

Chint Power Systems America, Somerville, NJ, *Performance Engineering Intern* **Dec 2024 - Jan 2025**

- Analyzed inverter data using MATLAB; performed root cause analysis on 15% output deviations
- Calibrated mechanical systems (IV curves, arc fault thresholds); deployed firmware updates

Chint Power Systems America, Somerville, NJ, *Mechanical Engineering Intern* **May 2024 - Aug 2024**

- Modeled inverter components in SolidWorks; optimized for thermal flow and manufacturability
- Ran finite element analysis in ANSYS to evaluate prototype strength and mechanical integrity

RESEARCH & LEADERSHIP EXPERIENCE

Moridi Research Group (LAMM), Ithaca, NY, *Undergraduate Researcher* **April 2025 - Present**

- Selected as 1 of 4 undergraduates in the lab; sole contributor to RollLIFT, a nanopulsed laser additive manufacturing system for roll-to-roll metal substrates
- Redesigned stepper motor and fixturing system to reduce sheet deflection; decreased laser print error by ~30%
- Conducting material trials on copper and aluminum sheets to optimize droplet-based deposition for 3D printing

AguaClara Cornell, Ithaca, NY, *Fabrication Engineer* **Sep 2023 - Present**

- Engineered dual support tensioning system in Fusion for a hydraulic ram pump, achieving stable upward flow
- Deployed pump designs with partners in Honduras, delivering sustainable water access to 1000+ people
- Prototyped and validated ram pump components, leveraging check valve integration to improve system reliability

SKILLS, INTERESTS, & INVOLVEMENTS

Additional On-Campus Involvements: Alpha Omega Epsilon Professional Engineering Sorority, Cornell FinTech, Cornell Sustainability Consultants, American Society of Mechanical Engineers, Society of Women Engineers

Technical Skills: SolidWorks, Siemens NX, FEA, ANSYS, MATLAB, Python, C++, Mechanical Systems, Root Cause Analysis, System Integration, 5S

Interests: Battlebots, Hiking, DIY Projects, Photography

Languages: English (native); Spanish (intermediate); Hindi (intermediate)