Garrett Smith

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected May 2027**
Bachelor of Science, Mechanical Engineering
GPA: 3.85 Minor: Environment and Sustainability

Selected Coursework: Thermodynamics • Dynamics • Mechanical Synthesis • Fluid Mechanics • System Dynamics • Mechanics of Engineering Materials • Heat Transfer

SPECIALIZED SKILLS

Technical: Autodesk Fusion 360, SolidWorks, DraftSight, NetSuite, Python, Java, Microsoft Office, Decision Modeling

ENGINEERING EXPERIENCE

Solar Panel Reboot Subteam Member, *Cornell University Sustainable Design,* Ithaca, NY **Feb 2025 – Present**

- **Spearheaded the design and construction** of a solar simulator to emulate real-world solar conditions, allowing the team to accurately quantify improvements in refurbished panels within a controlled laboratory environment
- **Pivoted** to fixed intensity LED rods to **preserve build schedule** after results from a trade study made the initial PWM dimming plan impractical given the budget and timeline constraints
- Completed a research study for Corning Inc. to analyze the effectiveness of hydrophobic and hydrophilic coatings in reducing soiling effects, primarily for application in the Middle East

Hardware Engineering Intern, *Advanced Environmental Monitoring*, Hayward, CA (Remote) **May-Aug 2025**

- Built **parametric CAD models** and led **design reviews** to validate fit across multiple solar panel sizes and poles
- Led solar add-on **design review**, including ASCE 7 wind calcs, fastener sizing, and coastal corrosion plan
- Performed **item-master analysis** across 117 solar panel SKUs, recommending consolidation to 9 "A-Tier" SKUs through a **weighted-factor decision matrix for uniformity and consistency** across 4 different business units
- Standardized DraftSight templates, **saving design team time and improving drawing consistency**

PROJECTS

OpenUP, Split Water Bottle, *Cornell University* **Feb 2025 – May 2025**

- Brainstormed 30+ possible designs → 6+ CAD prototypes → 2 iterations of 3D printing and material sourcing
- Framed and scoped the product around easy cleanability + leakproof sealing with manufacturing/ergonomic constraints; used **Pugh matrices** to document tradeoffs and **integrate DfX changes**
- Switched from J-B Weld to heat-set inserts after epoxy failure; recalculated O-ring compression and used X-profile for uniform pressure – **prototyped through failures to function to finish with a fully working product**
- **Planned the manufacturing path**, proposing a stainless steel deep-draw for top/bottom/cap, thread rolling for cap/neck, pressed latch slot, and spot-welded latches – **scalable for production**

ADDITIONAL EXPERIENCE

Construction and Maintenance Employee, *Mike Smith Contracting*, McVeytown, PA **May-Aug 2024**

- Assisted with house flipping projects, gaining hands-on experience in construction and **project management**
- Learned and performed key tasks, including laying flooring, hanging and sanding drywall, and general carpentry
- Worked closely with experienced contractors, enhancing teamwork and communication through collaboration
- Adapted to a dynamic work environment**, balancing learning new skills with contributing to project success**
- Demonstrated reliability and technical competence by being entrusted to **complete tasks independently**

Independent Tutoring, *Cornell University* **Sept 2023-Present**

- Provided free student tutoring services to fellow students on the mechanical engineering track
- **Reinforced key concepts** in Thermodynamics, Statics, Dynamics, and now in Fluids and Materials, while fostering a collaborative learning environment and deepening my own understanding of topics through teaching
- Spent 10+ hours per week helping classmates and received consistent positive feedback regarding outcome improvements