

Daniel Weil

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Website Portfolio: danielweil.me

Education

University of Maryland, A. James Clark School of Engineering

B.S., Mechanical Engineering

Cumulative GPA: 3.96 | Dean's List all semesters | IFC Academic Excellence Award

College Park, MD

Expected May 2028

U.S. Citizen

Projects

UMD Over Terrain Vehicle (OTV) Project

College Park, MD

Chassis & Propulsion Sub-Team Leader

January - May 2025

- Utilized SolidWorks to model, and 3D print vehicle components such as brackets, wheel hubs, and servo motor attachments
- Collaborated with 8 students in designing and building an autonomous vehicle to detect color, record dimensions, lift a fallen flap, and traverse an obstacle course within 3 months on a budget of \$350
- Developed 3 design brief presentations showcasing technical engineering drawings, component designs, and mission objectives
- Nominated for Best Constructed Vehicle Award and participated in the final showcase competing against successful groups

UMD Truss Design Project

College Park, MD

Team Leader

October - December 2024

- Modeled 3D truss components in SolidWorks and designed technical drawings later used as blueprints for constructing the truss
- Optimized truss design in Excel, achieving 3500+ lb load capacity — 2500+ lb over the initial goal
- Managed a team of six students, coordinating meetings and communication to deliver a design report with success analysis and a final presentation

Work Experience

M.C. Dean, Inc. – Life Safety Group

Tysons, VA

Engineering Intern

June - August 2026

- Designed fire alarm systems across 10+ commercial projects in Autodesk Revit, developing floor plans and placing/wiring detection and notification devices per code requirements
- Developed a Python automation tool integrated with Excel and AutoCAD that generates SLC riser diagrams from customizable device inputs, reducing drafting time by 90% and creating a standardized template adopted by the engineering team
- Produced isometric drawings, SLC riser diagrams, and remote panel documentation in AutoCAD to support project design and field installation
- Gained hands-on field and fabrication experience installing and wiring 30+ life safety devices on active job sites and assembling, wiring, and testing 50+ VESDA panels at M.C. Dean's Modular Mission Critical (MMC) facility

Rack and Row

Hinsdale, MA

Founder & Designer

May - August 2025

- Designed, prototyped, and fabricated custom wooden kayak racks by leveraging SolidWorks and operating a range of hand/power tools, ensuring structural stability and precision fit
- Collaborated with customers to integrate additional features (e.g., paddle mounts, waterproof sealant, protective padding), achieving iterative design with 100% client satisfaction
- Trained peers in safe tool usage and construction methods while maintaining a high standard of craftsmanship

Bicycles Plus

Franklin, MA

Mechanic

May - August 2025

- Assembled, diagnosed, and repaired a wide variety of bikes in collaboration with a team of mechanics, applying mechanical problem-solving skills to efficiently identify and assess issues through root cause analysis
- Serviced and built 50+ bikes weekly while solving problems ranging from flat tires to suspension maintenance
- Assisted customers in selecting appropriate bike parts and accessories, while also gaining hands-on experience operating a variety of repair tools, including tire levers, torque wrenches, and derailleur hanger aligners

Affiliations

Vertically Integrated Projects Research - Bioinspired Advanced Manufacturing Lab, Design Team Leader August 2025 - Present

- Model bioinspired soft robotic hydraulic actuator in SolidWorks and produce functional prototypes via 3D resin printing
- Lead a 9 member subteam and run weekly technical meetings, presenting iterative design progress and experimental results to support collaboration and component development
- Analyze spider chelicerae through motion capture videos to generate vector-based kinematic data for bio-mechanical modeling

Professional Engineering Fraternity - Sigma Phi Delta ($\Sigma\Phi\Delta$), President

January 2025 - Present

- Lead a 9 member executive board and chapter of 80+ members overseeing operations, event planning, and organizational growth
- Organize a variety of professional development, philanthropic, and community service events increasing retention rates by 25%
- Directed weekly executive board meetings and coordinated initiatives across multiple committees

Skills & Interests

- Engineering Tools: CAD GD&T, FEA Analysis, SolidWorks CSWA, Fusion, Inventor, 3D Printing, EES, Revit
- Software: MATLAB, Python, Bluebeam, Microsoft Office, Google Workspace, AI-Assisted Development (Claude, ChatGPT)
- Interests: Woodworking, Travel, Design, Music (Piano playing), Sports, Fitness, Additive Manufacturing