Sander J. Schulman

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EDUCATION

University of Maryland Clark School of Engineering — College Park, MD
B.S., Mechanical Engineering, GPA 3.949 — Expected May 2025
College Park Scholars: Science and Global Change — May 2023
Dean's List — All Semesters

WORK EXPERIENCE

Northrop Grumman — Baltimore, MD
Manufacturing Engineer — Jan. 2025- Present

- Analyzed machine data for collation and lamination processes and led optimization efforts.
- Created and implemented standard operating procedures and usage techniques for my assigned process, increasing throughput buy over 10%.
- Took inventory of spare parts and determined critical status of numerous machines, to design emergency downtime procedures.

Mission Systems Intern — Jun. 2024 – Aug. 2024

- Led Gage R&R studies between Automated Optical Inspection (AOI) and Touch Probe measurement systems to improve the accuracy of the AOI inspection process for manufacturing printed circuit boards, reducing inspection time by 20% and saving over $100,000/ yr.
- Created a standard Excel format for running and saving Gage R&R studies.
- Spearheaded an initiative to automate large-scale file transfers using Microsoft Batch Script, optimizing engineering data management, and freeing up 10TB of server space per month—enhancing accessibility for cross-functional teams.

Smart Imaging Systems — Beltsville, MD
Design Intern — Jun. 2022 – Jan 2024

- Optimized hundreds of metal, plastic, and ceramic SolidWorks/CREO designs and technical drawings for a multi-million dollar state-of-the-art scanner technology prototype, reducing part design costs by over 15%.
- Met with clients to discuss business needs, prepared product demonstrations for multiple clients, including U.S. Customs and Border Protection.
- Reviewed SolidWorks Drawings before sending to welder, and designed panel overlays using Scalable Vector Graphics.
- Fabricated sheet metal parts using a variety of power tools and used common workshop tools to assemble products. Created assembly instruction manuals for multiple x-ray scanning systems.

TECHNICAL EXPERIENCE

Over-Terrain Vehicle Project (OTV) — College Park, MD
Power and circuitry Sub-team Leader — Sept. 2021 – Dec. 2021

- Led a group of 7 students to design and test an autonomous over terrain vehicle which navigated obstacles and measured water depth, salinity, and color on a budget of $320 within 3 months.
- Built full OTV Arduino circuit schematic, and soldered wiring. Constructed WiFi module encasements.

RESEARCH AND CLUBS

LOMSS Laboratory College Park, MD

Research Assistant

Oct. 2023 – Present

- Utilized Digital Scanning Calorimetry (DSC) to predict the cure kinetics of single cured thermosets to be used in semiconductor packages.
- Created MATLAB scripts to efficiently sort and analyze DSC data and provide cure kinetics information.
- Began a novel investigation into how activation energy is affected based on temperature and curing changes in preparation for a published paper.

Multi-Scale Measurements Laboratory College Park, MD

Research Assistant

Aug. 2023 – Nov. 2023

- Used Digital Image Correlation to test displacement and strain of composite materials.
- Improved lab speckle pattern generation methods for use in VIC 3D testing.
- 3D printed Micro-Air Vehicle structures for testing of tensile properties when in a vacuum.

Terps Racing SAE Baja, *Member* Aug. 2024 – Present

- Designed a new mounting system for a Continuous Variable Transmission (CVT) to fit with a dynamometer for tuning using SolidWorks and Revit, under $90.
- Hands on experience with mill, drill press, lathe and other power tools to fabricate components for the CVT and engine mount.

Tau Beta Pi, *Member* Dec. 2023 – Present

- Raised money for the University of Maryland by coordinating fundraising and sports concession events.
- Planned networking events with members of industry.
- Recruited and mentored new members.

Engineers Without Borders, *Member* Oct. 2021 – Oct. 2022

- Used SolidWorks and Fusion 360 to redesign a water irrigation system for El Cacao, Nicaragua which reduced costs by more than 50%.
- Prepared a trip to Nicaragua which will set the foundation for implementation of the irrigation system.

SOFTWARE

SolidWorks, Autodesk Fusion 360, MATLAB, Arduino C, C++, HTML/JavaScript, Python, **Microsoft Office**, Scalable Vector Graphics (SVG), VIC 2D/3D, CREO, Batch Scripting, CyberOptics AOI