

# Dan Miltenberger

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## Skills

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**Design:** Solidworks, Fusion360, Onshape, ANSYS

**Code:** Python, Excel, VBA, C++, GIT

**Lab:** Multimeters, Oscilloscopes, Calipers, Soldering, Microelectronics

## Education

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**Virginia Commonwealth University** – BS in Mechanical Engineering, Minor in Mathematics Expected May 2025

- Notable Coursework: Mechatronics, Project Management, Robotics, Capstone (see *projects*)
- Tau Beta Pi Engineering Honors Society Scholar
- Emerging Leaders Program Mentee and Mentor
- 3.82 GPA, Dean's List

## Experience

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**R&D / OEM Product Development Intern**, B. Braun Medical Inc – Allentown, PA May 2024 – Aug 2024

- Led IV spike validation project from start to finish: research, technician feedback, designing custom fixtures, coding VBA data analysis tool to save 20+ hours of work, reporting to client
- Contributed to 10+ different projects, gaining whole picture view of product life cycle
- Wrote and executed testing of 30+ procedures in laboratory to ensure FDA, MDA regulations
- Collaborated with quality, sales, marketing, manufacturing, supply, and R&D departments
- Hands-on experience in extrusion shop, packaging, sterilization chambers, and clean rooms
- Presented work to 100+ person meeting, 1st place out of 40 at end of summer intern presentation

**Undergraduate Research Assistant**, Aerosols in Medicine Lab – Richmond, VA Sep 2023 – Present

- Contributed to developing dispersion device for shelf stable, life-saving infant surfactant
- Created custom STL generator from CT scans to accelerate research (see *projects*)
- Optimized FormLabs resin printing and SolidWorks design parameters for consistent testing
- Developed excellent organization and communication skills in Gates Foundation funded lab

**Industrial Engineering Intern**, Mack Trucks (Volvo Group) – Macungie, PA May 2023 – Aug 2023

- Automated logistics tasks using Python and PowerBI, saving 700 hours and \$40,000 per year
- Co-lead cross-functional kaizen team to improve ergonomics of 5 assembly line stations
- Recognized need and built custom program to automatically update diagrams of 500+ stations

**Makerspace Student Worker**, James Branch Cabell Library – Richmond, VA Aug 2021 – Present

- Designed and manufactured 200+ laser cut keychains for library outreach program
- Taught 300+ students and faculty 3D printing (FDM, SLA) and laser cutting in weekly lessons
- Interacted with public, solving technical issues in videography, audio, electronics

## Projects

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**Breathe Easy** – Senior Capstone

- Independently researched and proposed custom project to create a rugged and cost-effective spirometer
- Improved project management skills by asking for peer feedback during research and prototyping stages
- Collaborated with biomedical and mechanical engineering students towards mechatronics-based design
- Attained additional \$1,000 through team investment pitch to prestigious Sternheimer Grant panel

**Mountain Range** – Aerosols in Medicine Lab

- Recognized need and developed python program to convert CT scans of powder into custom container STL
- Streamlined process using Slicer 3D, OpenSCAD, and curve fitting algorithms to create optimal geometry
- Automated generation of experimental and control containers for repeatability testing