

Zach Pabis



Project Portfolio



LinkedIn



3D Printing Business

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WORK EXPERIENCE

Bendix Commercial Vehicle Systems LLC

May 2024 – Dec. 2024

Mechanical Engineering Co-Op

Avon, OH

- Designed and installed improvements to a hardware-in-loop test equipment, reducing setup time by 50%.
- Designed automated test setup and experiments to analyze and prevent failure of trailer air brake components at elevated temperatures.
- Created a new service kit product for trailer air brake components in Siemens PLM.
- Collaborated in a 10-person agile team using Scrum.

Saint-Gobain Performance Plastics

May 2023 – Aug. 2023

Mechanical/Automation Engineering Intern

Akron, OH

- Designed an oil cleaning system to clean and re-use \$15,000 in machine oil annually.
- Created a 3D printer program for the facility, enabling rapid prototyping of production line tooling and saving thousands of dollars per year over previously machined parts.
- Inspected and 3D modeled plastic extrusion production line tooling in SolidWorks, making design changes to improve reliability and manufacturability.

Sears Thinkbox

Aug. 2022 – May 2024

Student Technician

Cleveland, OH

- Educated makerspace users about digital fabrication technology including 3D printers, laser cutters, and 3D scanners.
- Maintained a print farm of over 20 FDM, SLA, and Polyjet 3D printers.

First Person Scale Models

Jun. 2017 – Present

Founder and Owner

Oakton, VA

- Designed and sold a variety of 3D printed model railroad related products.
- Grown from local to multiple international sales through custom WordPress website.
- Transitioned to passive income stream through file download sales, generating hundreds annually.

EDUCATION

Case Western Reserve University

May 2025

Bachelor of Science in Mechanical Engineering

Cleveland, OH

- Tau Beta Pi Engineering Honors Society; 3.95/4.00 GPA
- Co-authored published research paper: *Low-cost, 3D printed irradiation system for in vitro photodynamic therapy experiments*
- SolidWorks Certified Professional in Mechanical Design (CSWP)

SKILLS

Parametric CAD (SolidWorks, Fusion 360, Inventor); FEA; 3D printer maintenance (FDM, SLA, DLP, Polyjet); design for manufacturing (CNC, 3D print, laser cut, thermoform); hand and power tools; woodworking; basic machining; MATLAB; Arduino programming; basic electronics; soldering; WordPress web design; machine and hand sewing.