

AARON DUBOIS

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Education

Swarthmore College | *B.S. in Engineering; B.A. in Physics* - GPA: 3.95/4 2026
James Madison High School | GPA: 3.97/4 unweighted | National Merit Finalist 2022

Engineering Experience

Smith Materials Lab | *Research Assistant* | Swarthmore, PA May 2024 - Present

- Led the design and creation of an airtight cooling chamber used for 3 month long battery experiments for under \$500. Commercial alternatives are more robust but exceed \$10,000.
- Rapidly prototyped designs with CAD/CAM, CNC & Manual Machining, 3D Printing, Laser Cutting, & Soldering. Created plots of temperature stability and variation in the chamber.
- The chamber design was effective and a second chamber was requested. Authoring a methods paper that details the design so other research labs can replicate it.
- Presented design and results at 4 events. Three more presentations are planned including at the Material Research Society's Conference in Boston.

Pression, LLC | *Product Development Engineer Intern* | Coatesville, PA May 2023 - July 2023

- Programmed (in a C-like language) the main display of Pression's primary product, the Wave PRO, that controls treatment and communicates with microcontrollers and sensors. My code is still in use in Pression's clinical trials.
- Designed and prototyped peripheral components for Pression's medical device, including a hospital bed mount to secure tubing for compressed air during treatment and physical data interface ports.
- Supported the CEO with a pitch deck and drafted an application for a startup incubator on behalf of Pression.
- Authored protocols and processes for software requirements, release, version control, and verification.

Visit duboisprojects.github.io/projects/ for more experiences, projects, and visuals.

Leadership Experience & Campus Positions

Comma | *Co-Founder* | Swarthmore, PA Feb 2023 - Sep 2023

- Won 2nd place & \$1,000 at SwatTank 2023 for best startup pitch.
- Developed prototypes of user and library interfaces, a website, and many other start-up related materials.
- Established relationships with 8 libraries to provide physical books and beta test Comma's software.

Campus Positions | Swarthmore College

- Engineering Shop Technician - Help students navigate and use the shop; help maintain organization.
 - Drone Club Launch Director - Organize launching of all drones and rockets on campus.
 - Certified Club Van Driver - Drive 10 person vans for clubs I participate in.
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Skills & Interests & Coursework

General: Idea to prototype; self motivation; creative problem solving; leadership

Building: Manual and CNC machinery, 3D Printing, basic woodworking, soldering, laser cutting, welding

Design and Software: CAD/CAM, microcontrollers, programming in C++/C, GitHub, basic EAGLE

Club & Intramural Sports - Club Soccer, Club Squash, Intramural Dodgeball Champion

Nature Activities, Hiking, Skiing, Water Related Activities, Trail and Road Running, Board Games

Relevant Coursework: Fluid Mechanics, Electrodynamics, Optics, Linear Systems, Thermodynamics, Electrical Circuit Analysis, Differential Equations with Linear Algebra, Mechanics, Computer Engineering, Data Structures & Algorithms, Special Relativity