

AARON DUBOIS

Greater Philadelphia and D.C. areas | adubois1@swarthmore.edu | (703) 473-1448 | [linkedin.com/in/aarondubois](https://www.linkedin.com/in/aarondubois)

Education

Swarthmore College | *B.S. in Engineering; B.A. in Physics* - **GPA: 3.95**

2022 - 2026

Coursework: Fluid Mechanics, Linear Systems, Electrodynamics, Differential Equations, Mechanics, Thermodynamics, Geometric Optics (as well as EM Theory & Applications), Basic Quantum Mechanics, Foundations of Leadership, Special Relativity, Electrical Circuit Analysis, Data Structures & Algorithms

Projects & lab work: (visit duboisprojects.github.io/projects/ for visuals and more description)

- *Research Assistant* for the Smith Materials Lab: Building an airtight battery cooling apparatus that uses an on/off temperature controller and thermoelectric modules. Using Mössbauer Spectroscopy among other techniques to analyze different battery materials and their performance in varying temperatures (May - Aug 2024).
- *Research Assistant* for Professor Emad Masroor's flow-induced vibrational energy harvesting research: Designed and machined experimental setups using mostly manual techniques (with some CNC). Used CAD Shape Optimization techniques to minimize mass for fluid mechanics constraints.
- Designed and prototyped a portable ergonomic screen mirroring device to make paperwork easier - supported by Professor Lynne Molter. Almost all parts developed in CAD and 3D printed; a few parts were machined.
- Designing and building a drone that uses two brushless propellers.
- Designed, machined, soldered, and assembled a solar-powered USB charger.
- Designed and woodworked a projector mount that allows for vertical or horizontal projection with fine angle adjustments.
- *Engineering Shop Technician; Drone Club Launch Director*

James Madison High School | GPA: 4.50; Unweighted GPA: 3.97

2018 - 2022

National Merit Finalist; Olympic Development Program VA Soccer; Varsity Soccer; 5x5 Soccer Ranked #2 Nationally; Various Honor Societies; AP Scholar with Distinction; Math & Computer Science Tutor

Other Experience

Pression, LLC | *Product Development Engineer Intern* | Coatesville, PA

May 2023 - July 2023

- 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.
- Rearchitected and wrote the majority of the code (in a C-like language) for Pression's medical device display that communicates with microcontrollers and sensors in the device to control the treatment from start to finish. Now in clinical trials.
- Supported the CEO with the company's 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 for use in the Pression Quality Management System.

Comma | *Co-Founder* | Swarthmore, PA

February 2023 - September 2023

- Won 2nd place at SwatTank 2023 for best startup pitch.
- Developed prototypes of user and library interfaces.
- Established relationships with 8 libraries to provide physical books and beta test Comma's software.
- More information about Comma is available at duboisprojects.github.io/projects/.

Skills & Hobbies

Building – Conventional and CNC machinery; Soldering; 3D Printing; PIC microcontrollers; Arduino; Welding; Woodworking; Laser Cutting

Technologies & Frameworks – Fusion 360 CAD/CAM; Arduino; VSCode; CFD; Git; Drive/Office/Notion

Programming Languages – C++; Python; C; Matlab

Hobbies – Club Squash; Club Soccer; Intramural Dodgeball Champion; Board Games; Nature Related Activities