Hadrian Ward

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School

Camden Hills Regional High School (2021 - 2023

- Environmental club (“Windplanners”), helped analyze data from the school’s windmill and went to a youth climate action day in augusta.

Maine School of Science and Math (MSSM) (2023 - Graduated 2025)

- Designed and built a computer
- Cubesat project

Worcester Polytechnic Institute, starting fall 2025, Electrical and Computer Engineering

- Amature Radio Club: I have my Extra class license and participated in an SSB radio contest.
- Demoscene Lab (DemoLab): Working to design another part of my computer to interface with CRTs.

Work Experience

Habitat for Humanity (Summer 2024)

- I worked on framing houses in an affordable housing development in Rockland.

Hobbies/Projects

- Starting in March 2024 I designed a computer to be built only with basic logic chips (except for the memory). I spent the summer designing it with CircuitVerse and then KiCad. It uses a custom instruction set that I made up. I started building it in September 2024 which involved a lot of soldering components to custom circuit boards as well as debugging it. I was able to get it working by December and I later added a display. I learned a lot about building and troubleshooting digital logic.
- During fall 2024 and spring 2025 (senior year) I was part of a team with others from MSSM competing in the University of Southern Maine Cubesat Design Competition where we designed a scientific experiment (the “Cubesat”) to be carried on a weather balloon. Our experiment was to put multiple geiger counters on the cubesat wrapped in different materials and record the differences in detected radiation as it went high into the atmosphere. I helped a lot with programming and the electronics. There were some failures but there was enough redundancy to ensure we still got interesting data.
- Programming: I started with Python in 2019 and have been using Rust since 2023.
    - Multiplayer sailboat simulator game, including autopilot (2020)
    - Evolution/Natural selection simulator (2022)
    - An assembly parser and emulator for my computer project (2024-25)
    - A basic version of Tetris for my computer, written in assembly (2025)
    - Logic simulator, with features inspired by CircuitVerse and KiCad (github.com/HDrizzle/rusty_logic_core) (2025)
- Tinkering with simpler projects, including: A PID controlled inverted pendulum car, a brushless motor, a coilgun, and marble machines.
- January 2026: I am currently redesigning my computer to be much faster and to support interrupts. I have figured out how to pipeline it so the next instruction can be loaded while the current instruction is being executed. I intend to learn how to create it in Verilog and simulate it on an FPGA.