

Gavin Ford

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EDUCATION

Worcester Polytechnic Institute

Worcester, MA

BS - Electrical and Computer Engineering

AUG 2024 - MAY 2026

- GPA: 3.92
- Relevant coursework: RF Circuits, Embedded, Microelectronics, Calculus of Variations.

Portland Community College

Portland, OR

AS - General Transfer Degree

SEP 2020 - JUN 2024

- GPA: 4.0
- Gateway to College Scholar, 2020-2023.
- Member of Phi Theta Kappa Honor Society.

PERSONAL PROJECTS

Correlative Interferometry Radio Direction Finding (Phased Array)

NOV 2024

- Designed and built a CI radio direction finding system to track a rocket up to 40,000 ft. It compares the phases on five antennas using the AD8302 chip to find incident wave direction.
- Impedance controlled PCB with LNAs, filters, power splitter, phase detectors, ADCs, and an IMU.
- Used manual calculations and Advanced Design System (ADS) to design and simulate custom LNAs and 5th order bandpass filter.

Melty Brain Combat Robot

JAN 2024

- Designed, built, and programmed a competitive 150g combat robot that maximizes its moment of inertia by spinning the entire robot at 2900 RPM.
- Designed control PCB with IR beacon, accelerometer, and ESP32.
- Implement a Kalman filter on a rotating reference frame.
- Achieved consistent orientation tracking and fast translation while spinning at 2900 RPM.
- Won second place at three competitions.

E-Paper Smartwatch

JUN 2022

- Created a functional watch that displays time and information from a connected smartphone.
- Created custom schematic and PCB layout.
- Used technologies including I2C, SPI, UART, Bluetooth, and USB.
- Developed an Android companion app to update time and weather data on the watch.
- Designed and 3D printed the watch frame.

EXPERIENCE

WPI Surface Metrology Lab — Researcher

SEP 2024 - CURRENT

- Perform tests on fluid flow in machined channels with various machining parameters, analyze data, and document findings.

WPI Wireless Association — Repeater Control Operator

FEB 2025 - CURRENT

- Manage the W1WPI and W1YK amateur radio repeater systems.
- Set up computer networking for echolink nodes, and repeater linking.

Repair PDX — Small Appliance Repair

JUL 2018 - AUG 2024

- Experience troubleshooting and repairing many small electronic appliances.
- Worked efficiently with other fixers to repair complex issues.

Benson Robotics Club — Team Captain

SEP 2019 - JUL 2023

- Won first place awards in design and programming.
- Manufactured parts using 3D printer, CNC router, and lathe.
- Trained a neural network to recognize objects and programmed advanced sensor algorithms.
- Documented design process in an engineering notebook.

SKILLS

- Equipment used: VNAs, SDRs, oscilloscopes, network analysers, multimeters, 3D printers, CNC routers, and soldering irons.
- CAD and simulations in Eagle, KiCAD, Ansys, Matlab, ADS, LT Spice, Desmos Fusion 360 and OnShape.
- Programming in Java, Python, C, C++, and Bash.
- Experience with Linux, Excel, Word, PowerPoint, LaTeX, and Git.
- Amateur Extra ham radio licensed.