

Patrick Flanigan

BS in Robotics Engineering & Minor in CS,
Worcester Polytechnic University

I'm a robotics engineer and former rower at WPI with great communication and teamwork skills. I have a diverse set of engineering experiences and abilities which are always growing through professional work, academics, and personal projects.



(401) - 266 - 8777

patrickflan2001@gmail.com

127 Highland Road
Tiverton RI, 02878

patflan.co



SCAN ME

EDUCATION

Portsmouth Abbey High School

Portsmouth, Rhode Island August 2015 – May 2019

- Captain of the sailing team, Class elected graduation speaker
- Senior capstone project: Designed and built an autonomous drone to reach 100,000 feet and capture photos of the Earth from 'space'.

Worcester Polytechnic University

Worcester, Massachusetts August 2019 – May 2023

- Cumulative GPA: 3.52
- **Dean's List:** Fall '20, Spring '22, Spring '23
- **Starting Varsity Rower** 7 seat, starboard oar for the WPI Crew Team
- Courses focused on the following topics:*
 - **Robotics:** Microprocessors, Controls, Kinematics, Machine Design,
 - **Electrical:** Embedded systems, Digital Circuitry
 - **Mathematics:** Calculus I-IV, Linear Alg., Differential Equations
 - **Physics:** Statics, Stress, Dynamics, Electricity, Magnetism

SKILL SET

Robotics Systems Experience:

Controls and Dynamic responses,
Actuator design, localization,
kinematics, sensor integration,
Matlab modeling

Mechanical Experience:

Hydraulics, gas and diesel systems,
gearboxes

Electrical Engineering & Circuitry:

Embedded systems, RF debugging,
digital circuits, PCB design and
debugging, soldering, wiring
harness and connector design.

Machining Experience:

- 3D Printing, CNC machining
(turning and milling)
- Fiberglass, Carbon Composites
- Metal and wood working:
welding, grinding, sanding,
sandblasting and more.

Mechanical Design

Experience:

- Solidworks, ANSYS, Autodesk
- CAD, FEA, CFD, PCB
- Slicer 3D (Medical Modeling)

Software Experience:

- Experience with control
algorithms, complex system
modeling, HWIL systems
- C, C++, JAVA, Python,
'Racket', JAVA, JS, ROS, Gazebo,
MATLAB, Simulink, LabVIEW
- AWS Web experience:
API Gateways, Lambdas, RDS
- VS Code, JetBrains IDEs
(Pycharm, CLion, IntelliJ)
- Experience with Github and
version control on large teams

In addition,
I push a mean broom.

Given the chance, I'd attach 100 pages to this resume. Please visit
my website: patflan.co to learn more about me.

PROFESSIONAL EXPERIENCE

Flight & Propulsion Control Systems at Joby Aviation

Santa Cruz, California

August 2023 - Current

- I am currently working as an Integrated Flight and Propulsion Control Systems Engineer (IFPCS) at Joby Aviation
- My job primarily involves a full-aircraft hardware-in-the-loop lab. I execute, review data from, and disposition tests run here, especially relating to the Joby S4 control systems and dynamic responses.
- Additional responsibilities include authoring and running on-aircraft system-level test plans, as well as coordination and design of future lab capabilities to verify the functionality and safety of the Joby S4 Aircraft for certification.

Naval Undersea Warfare Center (NUWC)

Newport, Rhode Island

June - August 2022

- I worked with a team in the 'Future Capabilities' division of the 'Combat Systems' department at the Naval Undersea Warfare Center.
- My team specialized in unmanned systems development, integration, testing and training for sailors aboard US Navy submarines.
- I worked with a number of hardware, embedded, and software systems, wrote scripts and documentation, troubleshoot equipment, and assisted in a system install on board a submarine.

CASE Construction Equipment

Worcester, Massachusetts

Feb. 2021 – May 2022

- Monroe Tractor and Implement Co. is a dealership for CASE Construction Equipment specializing in excavators, skidsteers, bulldozers, frontloaders, pavers, and more.
- I performed regular maintenance, minor repairs, and inspections on used, rented, and purchased equipment.
- I coordinated on-the-ground trucking and paperwork for machines, equipment, fuel, and anything shipping into or out of the dealership.

PROJECTS

An Antique-Electric Conversion, The Triumph Spitfire

I am the proud owner of a 1972 Triumph Spitfire convertible. During the academic year of 2022-23, I founded a capstone project which successfully converted the Triumph to a fully electric vehicle in six months with a team of 8 engineers. I'm very proud to say: *we completed this project under budget and ahead of schedule.* During this, I acted as project lead as well as designed the HV and LV electrical layout of the vehicle, and the 24 kWh battery pack.