

Michael Piotto

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EDUCATION

Carleton University (Ongoing)

2024 - Present

Bachelor of Engineering in Mechanical engineering

3.5 gpa

WORK EXPERIENCE

Trail Building & Maintenance Volunteer

Feb – Aug

2021 *Community Project – Arnprior, Ontario*

- Cleared and maintained existing trails in the forest using chainsaws, axes, and hand saws.
- Constructed a 2 km trail in the woods connecting two existing paths
 - Collaborated closely with a small team of two others to plan, navigate, and build the trail to specification.

PERSONAL PROJECTS

• Bicycle chain tensioner:

- Designed and 3d modeled a functional bicycle chain tensioner in CAD
- fabricated the tensioner with 3d printed parts and aluminum, to be mounted on the chainstay of the bike with a unique clamping system.
- Successfully reduced chain slack and maintained consistent tension during riding.

• Dual engine model rocket

- Designed and 3D-modeled a small-scale rocket using CAD, applying Barrowman equations to find body and fin dimensions.
- 3D modeled and 3D printed the motor housing for the two clustered engines.
- The rocket successfully launched, achieving simultaneous ignition of the dual engines and parachute deployment.

• Radio controlled rocket launcher.

- Designed a 433 MHz wireless RF control system to safely initiate a model rocket launch from a remote distance.
- Implemented Manchester-style encoding and decoding using Raspberry Pi PIO peripherals for sending data.
- Designed transmitter and receiver circuits around Raspberry Pi platforms; developed control firmware and 3D-modeled and printed a custom enclosure.
- Integrated software-level validation and hardware safeguards to prevent false or unintended activation.

SKILLS & INTERESTS

- **Technologies:** CAD software: SolidWorks, Creo, Fusion 360; Coding: Python and MicroPython;
- **Skills:** Diagnostic Problem solving; Teamwork and communication in group projects
- **Interests:** Rocketry; Electronics and Machinery repair, Physics: Statistical mechanics and electromagnetism