Casey Midgley

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SKILLS

- *Robotics and Machine Control*

  End-to-end design and deployment of complex robotics systems, including mechanical, electrical and software.
  6 years

- *Solid Modeling & Manufacturing*

  Extensive Solid Modeling, Simulation and CAM, in Fusion 360 and SolidWorks.
  6 years

- *3D Printing*

  Custom design, build and operation of high-performance 3D printers.
  10 years

- *Software Engineering*

  Design and implementation of software systems on embedded (C, C++, ESP32/STM32) and full stack / cloud systems.
  6 years (4 years embedded)

EDUCATION

Worcester Polytechnic Institute **August 2022 – Current**

- Robotics Engineering & Computer Science (Dual majors, Graduating May, 2026)
- President of Collab Lab: Student run lab for creative exploration in technology
- Coursework includes Unified Robotics I-IV, Software Engineering, Object Oriented Programming, Algorithms, Electrical and Computer Engineering, Embedded Computing

Algonquin Regional High School & Laurel Springs School **August 2018 – June 2022**

- Design and Manufacturing lead for FRC (Robotics) Team 1100
- Studied abroad (junior year); maintained collaboration asynchronously with FRC Robotics team
- Coursework includes AP Computer Science, Engineering Graphics, Python, Engineering with Metals

PROJECTS

Designed, Built and Competed with Custom Design Combat Robot

- Modular approach enables repairs in $1/10^{th}$ the time (under one minute to replace any component).
- Open sourced and adopted by prominent members of the combat robotics community.

Custom High-Speed 3D-Printer

- Based on Voron V0 design, operates 8x faster with advanced gantry and hotend design.
- Printing a "Benchy" reduced from 40 minutes to 7.5 minutes with high quality.

Autonomous Robot Design and Construction

- Includes Slam, frontier detection & exploration with fault recovery and fully autonomous operation.
- Completed by a team of 4 students 20% ahead of schedule.

Full Stack Serverless Application

- AWS Lambda, AWS RDS, AWS S3; React, Next.js.
- Delegated and managed work across a 4-person team, completed ahead of schedule.