Matthew Fernandes

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EDUCATION

B.Tech– Automation/Automotive and Vehicle Engineering Technology, Level III(Co-op) **Hamilton, Ontario**
McMaster University *Jan 2019-Dec 2025*
Completed 200 hours of PLC, Controls, SolidWorks, AutoCAD, Electrical, Chemistry and Programming labs.

SKILLS & INTERESTS

CAD – SolidWorks **(CSWP)**, Inventor, SolidEdge, Fusion360, AutoCAD, 3D printing,

Electronics & Circuit Boards - Eagle CAD, Soldering, Circuit Board Fabrication, MMLogic, Multisim, PLC

Programming - C++, HTML, CSS, Python OpenCV, Python BeautifulSoup4, pandas

Desktop Applications/Others - FEA, (DFM/DFA), GD&T, Microsoft Office, Minitab, Project Management

EXPERIENCE

ATG PHARMA **Oakville, Ontario**
Mechanical Technical Drafter/Product Designer Continuous Improvement (Co-op) *Jan 2022-Sept 2022*

- Using Autodesk Inventor designed the mechanical build of **A-1 Single Shot Cartridge Filler** while optimizing and creating product documentation on the product resulting in a new product for sale.
- Collaborated with cross-functional teams and vendors to complete major documentation re-vamp of all ATG products, including 10+ BOM, Production, Fabrication, QA and QSG plans
- Using Autodesk Inventor developed, designed and prototyped **5+ in-house custom mechanical and automated solutions** for ATG Pharma's R&D products while designing company engineering drawing templates.

McMaster Baja Racing Team **Hamilton, Ontario**
Driver Controls Team Lead *Oct 2020-Present*

- Using SolidWorks designed, developed and prototyped **Custom Steering Rack** for McMaster Baja Racing's 2023 Car following **SAE Engineering Product Development Cycle**
- Organized weekly meetings and managed and **lead a sub-team of 5 members** in the design development of throttle, braking and steering systems managing 50+ drawings and parts on McMaster Baja Racing's 2023 Car
- Developed documentation for all steering and braking **design calculations** used in **design** and **procurement**
- Utilizing manual **mill, lathe, bandsaw, drill press and sander** fabricated +20 parts for 2021 Car
- Developed force measurement system for brake and throttle pedal using load cell sensors and designed torque measurement system for drivers steering force by using torque wrench/load cell.

McMaster Makers **Hamilton, Ontario**
Project Developer *August 2020- April 2022*

- Designed a Lane Detection Program with **OpenCV Python** for McMaster Makers' OpenCV workshop 2020
- Developed **"create a robot"** workshop using SolidWorks, Arduinos, Motors, IR Sensors, Motor Controllers
- Created HTML and Web scrapping workshop using Beautiful Soup 4, HTML, pandas, CSS, and python.

PROJECTS

MakeUofT Hackathon 2021 - 3rd Place Overall(3/49 teams) **2021**

- Designed an electrical system for a smart glove aimed to address the issues caused by repetitive hand stress
- Utilized IMU and flex sensor data to accurately track the hand's position and recognize gestures in real time

Ontario Engineering Competition - Junior Design **2021**

- Participated as McMaster Representative, designed systems based on problem statements within 6 hours.
- Created and Presented in PowerPoint a detailed presentation of all systems developed during the competition

McMaster Engineering Competition - Junior Design – Champion (1/75 teams) **2020**

- Designed and created an award-winning Rube-Goldberg machine and presentation in 4 hours.
- Presented 4 Rube-Goldberg Machines in front of judges and 75+ teams using PowerPoint.