





Nicholas Drazso

Mechatronics Engineering 2026 – University of Waterloo

 Design Portfolio |  ndrazso@uwaterloo.ca |  905-244-1804 |  Nicholas Drazso

SKILLS

Mechanical: CATIA 3DX, SolidWorks, GD&T, DFM, Sheet Metal Design

Electrical: Altium, PCB Assembly, CAN, SPI, I2C, Wire Harness Design, Soldering

Software: C++, Python, MATLAB, Simulink, Linux

Prototyping: 3D printing, Arduino, Raspberry Pi, Machining, Welding

WORK EXPERIENCE

Mechatronics Engineering Intern | *Electrans* | *Oakville, ON, CA* *Sept 2024 – Present*

- Creating a bed of nails test fixture with custom control PCB and RPi for critical CAN PCB
- Designing a custom sensor solution to prevent overall system damages, projected to save \$100k+
- Optimized urethane over molding process and redesigned PCBA, reducing costs by 80%

Test Equipment Design Engineering Intern | *Tesla* | *Palo Alto, CA, USA* *Jan 2024 – Apr 2024*

- Designed a fixture to write to EEPROM on PCBA using python to track hardware for 10k+ units
- Root caused failures on a novel cell test fixture implementing 5 design changes for full functionality
- Developed visualization app for viewing thermocouple data unlocking new capabilities for the team

Mechatronics Engineering Intern | *BotBuilt* | *Durham, NC, USA* *Sept 2022 – Dec 2022*

- Designed an autonomous unit test fixture for novel end effector increasing overall system reliability
- Made 10+ key design changes to end effectors and fixtures increasing scalability and accuracy
- Designed LiDAR camera cleaning solution allowing for a key new feature to be implemented

Mechanical Engineering Intern | *EM Dynamics* / *Scarborough, ON, CA* *Sept 2020 - Jan 2021*

- Optimized and created 100+ 3D models with engineering drawings for high volume manufacturing
- Released a DFM guide to customers reducing in house time spent on CAD corrections by 35%

Mechatronics Engineering Intern | *Pure Technologies* / *Mississauga, ON, CA* *Jan 2020 – Apr 2020*

- Iterated through 4 versions of mechanical and electrical designs improving robots reliability by 60%
- Designed, performed, and documented 10+ validation tests for robot upgrade

EXTRA CURRICULARS

Mechanical Team Lead | *UW DeepBlue* / *Waterloo, ON, CA* *Sept 2024 – Present*

- Leading a team of 8 to design 4 mechanical subsystems from conception to final product

CurtainBot | *Personal Design Project* *Dec 2024 – Present*

- Designing an autonomous curtain opening robot using a custom gearbox and BLDC motor

Linear Potentiometer | *Second Year Design Project* *Feb 2023 – Mar 2023*

- Created a linear potentiometer that utilized the voltage divider principal to measure displacement

Mechanical Team Member | *Waterloop* / *Waterloo, ON, CA* *Sept 2019 – Sept 2020*

- Developed brake testing rig unlocking a new capability for brake system development
- Led carbon fiber monocoque research project to reduce the pods weight by 40%

Founder and Lead Technician | *PB Solutions* / *Oshawa, ON, CA* *Jun 2012 – Sept 2019*

- Managed a team of 4 people in fast paced environment of up to 1000 players
- Troubleshoot and repaired electronic, pneumatic, and mechanical assemblies within paintball markers