

Andrew Guo

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Skills

Computer Aided Design (CAD)	SOLIDWORKS, Fusion 360, AutoCAD
Programming Languages	Python, Java, C++, C#, HTML, CSS, JavaScript
Rapid-Prototyping/Manufacturing	SLA/FDM 3D Printing, Laser-Cutting, CNC Machining, Lathe, Mill

Education

University of Waterloo, <i>Bachelor of Mechatronics Engineering</i>	Sept 2022 - present
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Experience

Bend All Automotive, <i>Test & Validation Intern</i>	Kitchener, Jan - April 2023
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- Performed design validation (DV) and production validation (PV) on Engine Oil Cooler (EOC) and Transmission Oil Cooler (TOC) systems *as an integral part of* Advanced Product Quality Planning (APQP) to ensure all components met the specifications and standards outlined by OEMs including General Motors Worldwide, the Ford Motor Company and Stellantis N.V.
- Created test fixtures and carried out over 50+ standard tests such as the Burst Strength, Tensile Strength, Impulse, Heat Aging, Serviceability, Thermal Cycling, Vibration, Pressure Temperature Cycling (PTC) and Underwater Leak Tests on over 1000+ individual parts to replicate the effects of long-term use and deterioration on components throughout a 10-15 year lifespan of a vehicle.
- Contributed to design and process FMEA by conducting root cause analysis on warranty parts and R&D *projects* using X-Rays, dissection techniques and UV black light inspections and creating test records and reports to identify and communicate the failure modes to customers.

Heliolytics, <i>Software Development Intern</i>	Toronto, June - Aug 2022
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- Strengthened the suite of analysis tools used to conduct aerial inspections of global solar farms bettering the quality of insights and reports for clients.
- Developed CRUD APIs for classifying and managing the types of problems identified during the aerial imagery analysis process.
- Refined QA processes by increasing unit test coverage and implementing validation to maintain data integrity and reliability.
- Contributed to the AGILE software development environment by collaborating in sprint planning, code reviews and team retros improving cross-team communication and preventing work silos.

Crescent School, <i>Robotics Consultant</i>	Toronto, July - Aug 2022
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- Formalized Tech Design course content by authoring a complete tutorial series on Fusion 360 by introducing essential CAD/CAM concepts such as 2D sketching, 3D modeling, working in assemblies and detailed drawings.
- Implemented course objectives by collaborating with fellow department staff to deliver curriculum to 100+ grade 9-12 students.
- Launched course materials in September 2022 streamlining the TDJ3M and TDJ4M curriculum at Crescent School.

FRC Team 610, <i>Chief Designer, Design + Manufacturing Team Member</i>	Toronto, Sept - April 2022
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- Headed the design and manufacturing sub-team of 20+ members through a fast-paced build season by organizing and managing design reviews, testing cycles and prototyping sessions.
- Designed a full assembly of the robot using CAD, including detailed drawings and CAM for manufacturing purposes.
- Iterated on several electro-mechanical subsystems using the engineering design process resulting in lighter and more robust mechanisms.
- Fabricated 100+ unique parts on a lathe, manual mill, CNC mill and other machines.

Certifications + Awards

Certified SOLIDWORKS Professional (CSWP), <i>Dassault Systemes</i>	Feb 2023
President's Scholarship of Distinction, <i>University of Waterloo</i>	Sept 2022