

# Andrew Guo

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## Skills

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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

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

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Bend All Automotive, <i>Test &amp; Validation Engineering Intern</i>	Kitchener   Jan – <i>present</i>
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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, Volvo Cars and Stellantis N.V.
- Created test fixtures and carried out over 70+ 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 the full assembly of the robot using CAD and created detailed drawings/CAM before fabricating over 100 unique parts on a lathe, manual mill and CNC mill.
- Iterated on several electro-mechanical subsystems using the engineering design process resulting in lighter and more robust mechanisms.

## Certifications + Awards

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Certified SOLIDWORKS Professional (CSWP), <i>Dassault Systèmes</i>	Feb 2023
President's Scholarship of Distinction, <i>University of Waterloo</i>	Sept 2022
Board of Governors Award, <i>Crescent School</i>	June 2022