Andrew Guo

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Skills + Certifications

Mechanical Design	SOLIDWORKS (Certified SOLIDWORKS Professional), AutoCAD, Fusion 360
Software/Programming	C++, Java, Python, C#, HTML, CSS, JavaScript, ROBOTC
Rapid-Prototyping/Manufacturing	SLA/FDM 3D Printing, Laser-Cutting, CNC Machining, Lathe, Mill

Education

University of Waterloo, *Bachelor of Mechatronics Engineering*, GPA: 4.0, Dean's Honours List — Sept 2022 - *present*

Experience

Systematix Inc, *Mechanical Design Engineering Intern* — *Waterloo, ON* | Sept 2023 – *present*

- Designed custom pick and place solutions for automation lines by leveraging principles of Design for Manufacturing (DFM) and Design for Assembly (DFA) through Computer Aided Design (CAD) software.
- Manufactured and assembled prototypes to facilitate rigorous testing and validation ensuring reliability and performance.
- Applied Geometric Dimensioning and Tolerancing (GD&T) to produce precise and comprehensive engineering drawings.
- Performed Cost Analysis to optimize designs, improve material selection and financial viability of projects.

Bend All Automotive, *Test & Validation Engineering Intern* — *Kitchener, ON* | Jan 2023 – Apr 2023

- Performed design validation (DV) and production validation (PV) on Engine Oil Cooler (EOC) and Transmission Oil Cooler (TOC) systems, ensuring that all components met OEM specifications and standards for GM, Ford, Volvo, Rivian (Suspension Lines for R1T and R1S) and Stellantis as part of the Advanced Product Quality Planning (APQP) process.
- Designed test fixtures and conducted over 100 standard tests on 2000+ parts to simulate long-term use, including Burst Strength, Tensile Strength, Impulse, Heat Aging, Thermal Cycling, Vibration, PTC, PDT, and Underwater Leak tests.
- Conducted root cause analysis on warranty parts and R&D projects using X-Rays, dissection techniques and UV black light inspections.

Heliolytics, *Software Development Intern* — *Toronto, ON* | June - Aug 2022

- Developed and implemented CRUD APIs to classify and manage problems identified during aerial imagery analysis, improving the quality of insights and reports for solar farm clients.
- Improved software stability and performance by increasing unit test coverage, implementing validation, and refining QA processes, resulting in a significant reduction in software bugs.
- Collaborated in sprint planning, code reviews, and team retrospectives within an AGILE development environment, improving cross-team communication and preventing work silos.

Robotics Team, *Mechanical Design Lead* — *Toronto, ON* | Sept 2018 - Apr 2022

- Led a team of 20+ members as the head of the design sub-team, driving 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.
- Manufactured over 100 unique parts using lathes, manual mills, CNC mills, etc.

Awards

President's Scholarship of Distinction, *University of Waterloo*	Sept 2022
Board of Governors Award – "The Man of Character"	June 2022
Norris Family Robotics and Technology Award	June 2022