Michael Zeliznak

Mechatronics Engineering – 2B

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Skills

Programs: SolidWorks, Autodesk Inventor, Onshape, AutoCAD, MS Excel, MS Word, MS Teams
Programming Languages: C/C++, Python, HTML, Tailwind CSS, Node.js, Vue.js, Next.js, React, PostgreSQL, VHDL
Awards & Certifications: Certified SolidWorks Associate, Dean's List (1A, 1B, 2A), First-in-Class Scholarship (1A, 1B)
Additional Skills and Assets: FDM printing, SLA printing, basic machining experience, electromechanical system design

Job Experience

ATS Life Sciences – Automation Designer
May 2025 – August 2025

- Designed and simulated robots, conveyors, and plants to determine design feasibility and suggest improvements for multi-million-dollar automation equipment
- Planned and conducted tests to determine root causes of errors on medical device production lines
- Wrote multiple reports highlighting key findings from production line testing for a multidisciplinary team of 10+ members

Triton Genomics – Biomedical Engineering Intern
September 2024 – December 2024

- Designed sheet metal and CNC machinable parts in Autodesk Inventor to improve device functionality and manufacturability
- Applied rapid prototyping methods, including FDM and resin printing, to test designs and analyze device usability
- Redesigned, tested, and printed gasket molds, reducing processing time and material waste by up to 50%

Multimatic Dynamic Suspensions – Test Lab Technician
January 2024 – April 2024

- Coordinated daily tests with other co-op students to increase throughput and efficiency
- Improved Excel tracking sheets, increasing data accuracy by 50%
- Captured fixture photos using a DSLR camera and updated server documentation, reducing setup time by up to 30%
- Worked with Automotive Engineers to test and identify production issues with ball joints and control arms

Extracurricular Experience

Waterloo Microfluidics and Soft Robotics Lab Volunteer
May 2024 – April 2025

- Assisted a master's student in designing 3D printable fixtures for assembling and testing pneumatically actuated muscles
- Developed a PyQt desktop application using Python to interface with an air pump, Mark-10 test frame, and digital multimeter for automated data collection
- Designed and prototyped a resin-printed container in SolidWorks for housing a PCB and battery that is mountable to an arm

Canadian Engineering Competition
March 2025

- Placed 3rd nationally, 2nd provincially, and 1st regionally, in the Junior Design category
- Collaborated with three teammates to design, prototype, and present a water propagation system to a panel of judges, defending engineering choices and processes

Projects

Bluetooth Rover

- Processes six controller inputs via Bluetooth from a computer program, written in C++, to an Arduino
- Built using an Arduino Uno, HC-05 Bluetooth module, L298N motor controller, and 3D-printed parts
- Designed rover arms and base in SolidWorks; standardized part models sourced from McMaster-Carr

Education

Waterloo Mechatronics Engineering
September 2023 – April 2028