

Samuel Tan

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EDUCATION

University of Ottawa

Bachelor of Science in Mechanical Engineering, Co-operative Program (GPA 3.49/4.00)

Ottawa, CA

Sep 2020 - Jun 2025

- Awarded admission scholarship totalling \$2,000

EXPERIENCE

Bombardier

Internship in Stress Analysis

Montreal, CA

May 2023 – Present

- Generated an FE model of a trunnion for a landing gear using Altair Hypermesh and performed a stress analysis using NASTRAN Solver and Altair Hyperview

University of Ottawa

Research Assistant

Ottawa, CA

Jan 2023 – April 2023

- Prototyped an electromechanical puncturing device for extracting eggshell membranes, reducing waste in liquid egg processing plants and handling eggs with a 100% success rate
- Fabricated technical drawings and machined components for the puncturing device using the mill and lathe
- Constructed a prototype PCB to integrate and control the electrical and mechanical components of the puncturing device

Multimatic Technical Centre

Design Engineering Student

Markham, CA

May 2022 – Aug 2022

- Remodeled interior components for the Chevrolet Colorado ZR2 Bison's Jounce Damper by using NX, reducing its internal friction by 77%
- Automated process used to calculate damping force for the Jounce Damper using MATLAB, increasing efficiency by 87.5%
- Designed installation tools for the Jounce Damper by using NX, reducing manual assembly time by 83%
- Generated assembly drawings to provide instructions to build a Jounce Damper, assembling over 50 prototypes for testing

EXTRACURRICULAR ACTIVITIES

University of Ottawa's Mars Rover Team

Mechanical lead

Ottawa, CA

Jan 2023 – Present

- Oversaw the mechanical design for the Robotic Arm, Chassis, and Suspension subsystems, participating in weekly team meetings to ensure successful integration of mechanical components
- Performed stress and deformation analysis on Robotic Arm and Suspension components to ensure satisfactory structural integrity across all mechanical components
- Hosted design reviews and 3D printing workshops with junior team members

Robotic Arm Lead

Jan 2022 – Dec 2022

- Oversaw the mechanical design of the robotic arm of a Mars exploration rover, coordinating weekly meetings with software, electrical and mechanical engineering students to ensure a successful transition from design to testing

Mechanical Designer

Sep 2021 - Dec 2021

- Designed an end effector by using SolidWorks for a Mars exploration rover, reducing the mass of the original design by 60%

SKILLS

- CAD (SolidWorks, NX), FEA (Hypermesh, Hyperview) 3D printing (Ultimaker 2+ Connect, Markforged), Electronics (Arduino, soldering), Programming (C, JavaScript, Python, Java, MATLAB)