Samuel Tan

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EDUCATION

University of Ottawa Ottawa, CA
Bachelor of Science in Mechanical Engineering, Co-operative Program (GPA 3.49/4.00) Sep 2020 - Jun 2025

- Awarded admission scholarship totalling $2,000
- Remote Braking Solution: Devised project plan and built a remote braking system for a gait trainer by using SolidWorks and Arduino, supporting caregivers of individuals with mobility needs, and achieving a grade of 89%
- Autonomous Delivery Service: Devised project plan and programmed a menu builder by using CSS, HTML, and JavaScript, achieving a grade of 92%

EXPERIENCE

University of Ottawa Ottawa, CA
Research Assistant Jan 2023 – Present

- Prototyped an electromechanical machine using Arduino and SolidWorks to help extract eggshell membranes from raw eggs
- Produced weekly progress reports using Microsoft Office and participated in design reviews with senior team members

Multimatic Technical Centre Markham, CA
Design Engineering Student May 2022 – Aug 2022

- Remodeled interior components of a hydraulic bump stop by using NX, reducing its internal friction by 77%
- Automated process used to calculate damping force for a hydraulic bump stop using MATLAB, increasing efficiency by 87.5%
- Designed installation tools for a hydraulic bump stop installation tools by using NX, reducing manual assembly time by 83%
- Generated assembly drawings to provide instructions to build a hydraulic bump stop, assembling over 50 prototypes for testing

EXTRACURRICULAR ACTIVITIES

University of Ottawa's Mars Rover Team Ottawa, CA
Mechanical lead Jan 2023 – Present

- Oversaw integration of mechanical and electrical components for the Robotic Arm and Chassis and Suspension subsystems
- Hosted design reviews and 3D printing workshops with junior team members
- Performed stress and deformation analysis on robotic arm components using FEA
- Redesigned the Robotic Arm's End Effector to improve assembly time by 33%

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
- Modified McMaster-Carr components using a mill and lathe to successfully assemble the robotic arm

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 & INTERESTS

- Engineering: CAD (SolidWorks, NX), 3D printing (Ultimaker 2+ Connect, Markforged), and Arduino
- Computer programs: C, JavaScript, Python, Java, MATLAB, Microsoft Office