

Salih Al-Tak

Education

✉ salih.h.altak@gmail.com | 🏠 <https://altaks.wixsite.com/salih-al-tak> | 🔗 [linkedin.com/in/salih-al-tak](https://www.linkedin.com/in/salih-al-tak)

McMaster University

B.Eng in Mechanical Engineering (CO-OP)

Hamilton, ON

Sept 2020 - May 2025

Skills

- | | | | |
|-------------------|--------------|----------|---------------------|
| • DFM / DFA | • Solidworks | • Python | • KISSsoft |
| • CAD / CAM / CAE | • ANSYS | • SQL | • Matlab / Simulink |
| • FMEA | • GD&T | • JMP | • CNC Manufacturing |

Work Experience

Adam Tools INC.

Technical Sales Engineer Intern

Mississauga, ON

Sep 2024 - Present

- Developed **engineered floor plans** in compliance with project specifications and building codes, collaborating with engineers and architects to optimize designs for structural integrity and cost-efficiency.
- Performed detailed **takeoffs** and **estimates** for construction projects, ensuring accurate material requirements and cost projections for building supplies like lumber, drywall, and beams.
- Provided technical support on material selection and construction methods to contractors and project teams.

Johnson Electric

Junior Engineering Specialist: Process and Product Development

Mississauga, ON

May 2023 - Aug 2024

- Utilized **SolidWorks** for designing and drafting drawings of various gear parts and assemblies, ensuring effective production and assembly through adherence to **DFM** and **DFA** principles.
- Conducted an in-depth **Root Cause Analysis** to investigate the causes of premature gear failure. Leveraged **Finite Element Analysis (FEA)** and conducted mechanical testing to pinpoint the underlying issues.
- Partnered with senior engineers to develop mechanical components and **manufacturing feasibility studies**, ensuring projects met objectives from concept through production.
- Leveraged **Python**, **SQL**, and **JMP** to proficiently acquire and analyze extensive data for a vehicle transmission benchmarking system, generating informative visualizations that improved decision-making processes.

Oakly Landscaping

Crew Leader

Toronto, ON

Apr 2020 - Sept 2022

- Trained and supervised a crew of 5 engaged in maintenance of gardens of 25 commercial and residential properties.
- Created a time tracking system in **Excel** for easy logging of employee hours, enhancing payroll accuracy and ensuring pay stub integrity.
- Planned and organized efficient routes for maintenance teams to optimize productivity and minimize downtime.

University Projects

Ergonomic Snow Shovel

McMaster University

Hamilton, ON

Jan 2023 - April 2023

- Designed and manufactured a motorized device, using **Solidworks**, to ease the removal of snow in residential homes.
- Leveraged iterative application of **DFA** and **DFM** principles to optimize cost, ergonomics, and efficiency during the design phase.
- Employed **Microsoft Project** for efficient timeline management and task allocation.

Kinetic Robot Via Propulsion Mechanism

McMaster University

Hamilton, ON

Sept 2021 - Dec 2021

- Engineered a robot with an intricate linkage system and a propulsion mechanism using **Solidworks**.
- Conducted tolerance calculations and leveraged Solidworks simulation to optimize structural rigidity and fabricated the components accordingly using **3D printing** and **laser cutting** technologies.
- Programmed an **Arduino microcontroller** to control the motors movements through a responsive switch interface.

Extracurricular Activities

McMaster Society of Mechanical Engineering

Mechanical Engineering Department Representative

Hamilton, ON

Sept 2022 - Present

- Planned departmental events, creating a platform for students to share their concerns about the mechanical engineering department.
- Acted as a communication bridge between the student body and executive team, voicing concerns and relevant updates to both parties.