

Khaalid Ismail

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SUMMARY

Mechanical Engineering Student (B.Eng., Expected 2026) with experience in project engineering, manufacturing processes, and mechanical design. Skilled in project coordination, data analysis, CAD modeling, and technical documentation, with hands-on experience in prototype development, testing, and continuous improvement initiatives. Strong commitment to health & safety, SOP development, and operational efficiency in industrial environments.

EDUCATION

Bachelor of Engineering in Mechanical Engineering

York University • Expected 2026

Relevant courses: Engineering Graphics and CAD Modelling, Instrumentation and Measurement Techniques, mechanical Engineering design, Fluid Mechanics, Machine Elements Design, Thermodynamics and Heat transfer

PROJECT EXPERIENCE

Lead Mechanical Designer

Loop parking Capstone: Sensor-Fusion Approach to Curbside Enforcement

September 2025 - April 2026

- Designed and executed a multidisciplinary engineering project, progressing from concept development to prototyping, testing, and final validation
- Developed and interpreted CAD models and engineering drawings to support fabrication, assembly, and design verification.
- Coordinated project activities by tracking tasks, documenting progress, and maintaining organized records to ensure timely completion of deliverables.
- Analyzed experimental data and generated technical reports with actionable insights to drive design improvements and support decision-making.
- Implemented standardized procedures and troubleshooting methods to enhance performance, improve repeatability, and maintain safe testing practices.

Mechanical Designer

Mini design project: Arduino-Controlled Sun-Tracking Solar Panel System

January 2025 - April 2025

- Executed a full project lifecycle from concept development to prototyping, testing, and final validation, ensuring alignment with structured deliverables.
- Designed automated control system integrating sensors, actuators, and mechanical components.
- Developed CAD models and engineering drawings to support fabrication, assembly, and design validation.
- Analyzed experimental data and produced technical reports with actionable recommendations to improve system efficiency and reliability.
- Standardized documentation and troubleshooting processes while maintaining project tracking, safety practices, and effective team collaboration.

Mechanical Design & Analysis

Machine Elements Design Course: E-Bike System

January 2024 - April 2024

- Designed mechanical components using CAD with focus on manufacturability and tolerance analysis
- Performed engineering calculations and FEA to evaluate structural performance
- Produced detailed design documentation and reports
- Supported prototype assembly and testing to validate system performance
- Applied engineering principles to optimize system reliability

Mechanical Design & Embedded Systems

Toronto Portland Waste Management Project: Autonomous Water Skimmer

September – December 2023

- Supported mechanical design of assemblies and housings for electronics, motors, and sensors.
- Assisted with prototype build, lab testing, and troubleshooting, contributing to verification and validation activities.
- Created and updated CAD models and fabrication drawings throughout design iterations.
- Collaborated with cross-functional team members to resolve mechanical integration challenges.
- Documented design updates and test observations to support team reviews.

Instrumentation & Data Systems

Instrumentation & Measurement Techniques Course: Boxing Rehabilitation Tool

January – April 2023

- Built and tested a mechanical system with integrated electronic sensors focused on Data acquisition systems.
- Supported mechanical verification testing through data collection and performance evaluation.
- Prepared technical reports and documentation detailing methods, results, and conclusions.
- Strengthened understanding of hardware validation and lab-based development processes.

WORK EXPERIENCE

Team Lead Ride Operator-- Canada wonderland

May - November 2023

- Worked in a safety-critical, systems-based environment, supporting mechanical operation and inspections.
- Communicated technical observations clearly to supervisors and maintenance staff.
- Demonstrated strong time management, teamwork, and situational awareness in a dynamic setting.
- Maintained accurate documentation and reporting aligned with operational procedures.

Team Lead-- ZARA & NIKE

August 2022- March 2023

- Coordinated schedules, documentation, and communication in a fast-paced operational environment.
- Demonstrated strong organizational skills, attention to detail, and professionalism transferable to construction project teams.

Technical skills

CAD & Mechanical Design: SolidWorks (3D modeling, FEA), AutoCAD, GD&T, Drawing Generation

Analysis & Simulation: FEA (Star ccm+),CFD (star ccm+), ANSYS, MATLAB, Simulink

Mechanical Engineering: Heat Transfer, Structural Dynamics, Mechanism Design, Materials, Stress Analysis

Manufacturing: CNC machining, 3D printing, welding, soldering, DFM principles

Testing & Prototyping: Functional testing, performance testing, subsystem bring-up, instrumentation

Embedded Systems: Arduino, sensor integration (force, accelerometer, ultrasonic), DAQ systems

Tools & Lab Experience: Hand tools, power tools, assembly fixtures, measurement instruments, Generative design

Software: Python , Excel (statistical analysis), LabVIEW, fusion 360 generative design.