

ZAID HODA

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EDUCATION

University of Calgary

Bachelor of Science in Electrical Engineering, Minor in Mechatronics Engineering

September 2022 – April 2027

GPA: 3.5/4.0

Coursework: Computer Architecture, Digital Systems, Control Systems, Communications and Networks, Mechatronics

Awards: Dean's List, Jason Lang Scholarship, SSE Summer Research Award, CNRL Building Futures Scholarship

SKILLS

Programming Languages: C/C++, Python, SystemVerilog, HTML/CSS, JavaScript

Software and Data: Microsoft Excel, Power BI, Report Builder, SQL, VBA, Linux, GitHub

Embedded Systems: KiCad, Altium Designer, LTspice, Multisim, Xilinx Vivado, FPGAs, microcontrollers, ROS 2

EXPERIENCE

Canadian Natural Resources Limited

Fort McMurray, AB

Data & Automation Engineering Intern

May 2025 – December 2025

- Supported the Mine Technology team in improving the collision awareness and dispatch systems at Albion Sands.
- Developed live **Power BI** dashboards and **SQL** reports to identify hardware defects and track availability metrics, improving fleet-wide availability by **25%** in three months.
- Analyzed haul truck data to identify and present causes behind tire overheating and delivered an opportunity statement on availability improvements to management.
- Conducted case studies, delivered presentations, and performed daily checks to ensure proper functionality of the collision awareness system and safety in the mine.

Schulich School of Engineering

Calgary, AB

Machine Learning Research Assistant ([GitHub](#))

January 2025 – Present

- Reviewed machine learning methods for prosthetic design, including reinforcement learning and neural networks.
- Developed deep learning models in TensorFlow for EMG classification, achieving up to **98%** accuracy.
- Built a real-time data collection and classification pipeline in **MATLAB** and **Python** using live EMG sensor data.

Robotics Research Intern ([GitHub](#))

May 2024 - August 2024

- Developed software for an assistive humanoid robot for the City of Calgary under Dr. Henry Leung at the Autonomous Systems and Intelligent Sensing Laboratory.
- Implemented custom **ROS 2** packages for a Hokuyo UST-20XL LiDAR, enabling mapping functionality for the robot.
- Wrote Arduino firmware and built a ROS 2 pipeline to interface an MPU6050 IMU for the robot's navigation stack.

CalgaryToSpace

Calgary, AB

Electrical Subteam Member

January 2024 – Present

- Contributed to all stages of PCB development; schematic/layout design with **KiCad** and **Altium**, soldering and assembly, and testing/troubleshooting with oscilloscopes and multimeters for Calgary's first student-made satellite.
- Wrote Arduino firmware in **C++** and designed a potentiometer-based PCB to interface an INA219 current sensor for solar panel testing, reducing testing time by approximately **90%**.
- Led the design and electrical assembly of cable harnesses for final satellite assembly and integration.

PROJECTS

Disease Prediction App ([GitHub](#))

March 2025

- Led the development of a machine learning-powered web app for disease detection, winning **1st place** at BioHack 2025, a health hackathon at the University of Calgary.
- Trained ML models in **Python** using **scikit-learn** on real-world medical data, achieving up to **95%** accuracy.
- Built a user-friendly interface for patient input and disease prediction using **HTML, CSS, JavaScript, and Flask**.