

Gibran Akmal

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EDUCATION

University of Calgary

Bachelor of Science, in Software Engineering

Calgary, AB

Graduation Date: June 2025

WORK EXPERIENCE

ExxonMobil

Data Engineering Intern

Calgary, AB

Jan 2025 – Present

- Developed and optimized Azure Data Factory and Databricks pipelines for upstream assets, reducing manual data processing time by 30% and improving data ingestion efficiency.
- Implemented CI/CD pipelines for data workflows using GitHub Actions and Azure DevOps, automating Databricks notebook deployments and reducing manual release effort by 50%, ensuring seamless integration and version control across data pipelines.
- Regularly conducted code reviews and wrote unit tests, employing tools like Git and testing frameworks such as PyTest and to ensure code quality and adherence to best practices.
- Optimized SQL queries and Spark jobs in Databricks, reducing ETL processing times by 45% and improving query performance for site critical applications such as FieldHub and MaintenanceHub.
- Engineered a streamlined data pipeline for EMAT scan data ingestion at Kearnl, enabling automated spool inspection analysis and enhancing data availability for predictive maintenance models.
- Collaborated with business, data science, and software development teams, integrating machine learning models into operational data pipelines to enhance predictive analytics capabilities.

TC Energy

Pipeline Integrity Engineering Intern

Calgary, AB

May 2023 – Aug 2024

- Employed SQL and Python to build a threat tool that predicts the likelihood of leaks based on pipeline wall thicknesses, resulting in a 15% reduction in processing errors. I further utilized this tool for validating Safe Excavation Pressure recommendations when drafting SEP Tech Memos.
- Automated the data population procedure for field data, like NDE findings and repair documentation, by building scripts in VB and Power Automate, reducing manual effort and human error by 25% as well as decreasing the required quantity of on-site technicians.
- Developed a computer vision system leveraging deep learning algorithms and TensorFlow to automatically detect and classify corrosion on pipeline surfaces from inspection images. This system improved inspection accuracy by 30%.
- Attended numerous site visits to integrity excavations and facilities such as compressor stations and meter stations while also working closely with project management teams to review engineering deliverables such as plot plans, scope sheets, tech memos, as-builts, and single-line diagrams.
- Collaborated with the valve integrity team to assist in actuator maintenance efforts using Solidworks to inspect models of ball valves, gate valves, and globe valves.
- Performed correlation of ILI detected metal loss, SCC, and dent features in pipe tallies with as found integrity defects within SOW.

PROJECT EXPERIENCE

Race-Car Telemetry System (Capstone Project)

Hardware and Firmware Team Member

Calgary, AB

Sep 2024 - April 2025

- Designed and implemented a firmware solution for an ESP-32 microcontroller to transmit CAN packets over Wi-Fi, eliminating the need for MQTT protocols and reducing system complexity by 25% within a 3-month development period.
- Developed a Python-based base station application capable of receiving and processing Wi-Fi transmitted CAN packets from the ESP-32, achieving a 95% data accuracy rate and enhancing real-time data monitoring capabilities over a 2-month timeframe.

Schulich Space Rover Team

Electrical and Software Sub Team Member

Calgary, AB

Jun 2021 - Jun 2022

- Implemented algorithms for autonomous navigation utilizing ROS and C++ for waypoint mapping, resulting in 15% fewer errors in route planning.
- Leveraged computer vision and machine learning techniques in MATLAB to develop and implement real-time object-tracking functionality for the rover, enabling the system to identify and track objects in its FOV, which improved obstacle detection by 30%.

LEADERSHIP EXPERIENCE

Step Forward Volunteering Association

Member

Calgary, AB

Feb 2020 - Present

- I assisted in the conception and execution of a charitable walkathon in support of the Students Against Domestic Abuse Association (SADAA) to raise awareness and funds for their cause of combating domestic abuse, and we managed to raise about \$20,000.
- Organized food drives through donation stations set up across the University of Calgary to distribute sustenance to those in need.
- Contributed to the setup of the “Disney on Ice” community event by running the toy assembly station and serving children at snack shops.

SKILLS

C, C++, C#, Java, Python, JavaScript, PHP, SQL, React.js, Embedded Systems, Unity, Git, Linux, Pandas, MATLAB, TensorFlow, TCP/IP