Coen Molyneaux

coen.molyneaux@shaw.ca
403.808.1322

LinkedIn: https://www.linkedin.com/in/coenmolyneaux/

GitHub: https://github.com/Coen-Molyneaux

Skills

Programming Languages: Java, Python, C, C++, SQL, MATLAB, LaTex, VBA
Software Tools: VSCode, GCloud, IntelliJ, Jupyter Notebook, Microsoft 365 Applications
Hardware: Arduino, Raspberry Pi, EPS32

Work Experience

Condor Energies
January 2025 – present
Engineering Intern:

- Built a Python program using Google Cloud APIs to automate translation of the corporate document database. While maintaining original document format.
- Developed a VBA-based Excel tool to automate production forecasting, saving a reservoir engineer more than two days of work per run, three to four times per month.
- Used VBA to automate generation of field-level charts visualizing perforations, lowest tested gas, and gas-water contacts.
- Compiled and analyzed well histories to assess current field and well conditions.

Technical Projects

Autonomous Item Retrieval Claw

- Designed and built a claw from sheet metal.
- Used C++ to program an Arduino to actuate servos to activate the claw.
- Used C++ to program an Arduino to interpret distance from an ultrasonic sensor to determine when to actuate the servo to close the claw on an object.

Water Treatment System Design

- Modeled a small-scale water treatment system for remote communities.
- Conducted data analysis to optimize the treatment processes, including flow rate calculations, chemical dosage modeling, filter selection, and consumer satisfaction.
- Evaluated the facility's suitability for the context it will be implemented through comprehensive Excel-based simulations.

Education

Engineering Physics
Expected Graduation: May 2028
The University of British Columbia (UBC)

Student Design Team

Brewing Internet of Things (BIoT)
September 2023 – present
Instrumentation Team Lead:

- Used MQTT protocol between Arduino and Raspberry Pi with Mosquitto as the broker.
- Developed C++ code for Arduino to program sensors and facilitate data collection from the brewing process.
- Wrote Python scripts to parse and process sensor data before storing it in the database, supporting efficient data analysis and visualization.
- Hosted TimescaleDB on the Raspberry Pi to manage and store time-series data collected from Atlas Scientific pH, temperature, and dissolved oxygen sensors.