

Anas Ahmed

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Education

University of British Columbia

Bachelor of Science in Computer Science

Sep. 2023 – May. 2028

- **Coursework:** Introduction to Data Science, Operating Systems, Software Engineering, Data Structures and Algorithms, Elementary Statistics, Applied Machine Learning, Matrix Algebra

Experience

Incoming Summer Technology Analyst

Morgan Stanley

Vancouver, B.C

May. 2026 - Aug. 2026

Software Developer Intern

Atlas Power Technologies

Vancouver, B.C

May. 2025 – Dec. 2025

- Developed a full-stack system using **C#** and the **.NET Framework** to interface with embedded hardware via **UART communication**, enabling real-time data transmission with less than **20 ms** latency.
- Designed a data storage system using **MongoDB** and **PostgreSQL**, reducing data retrieval time.
- Implemented **TSN protocol** in **C** across two **TI AM243x** boards to transmit **JSON** structured payloads in both one-way and two-way communication at **99%** reliability.
- Integrated the **C++ libmodbus** library to push commands to network I/O devices via **Modbus**.

Software Engineer

UBC SAE AeroDesign

Vancouver, B.C

Sep. 2025 – Present

- Developed a autonomous payload-capture system in **Python** using **OpenCV** and **Pupil AprilTags**, achieving greater than **85%** tag detection accuracy under various weather conditions.
- Implemented a pre-trained **YOLO** model to accurately detect and localize payloads in real time, enhancing the reliability of the capture system to **95%**.

Software Engineer

UBC Smart City

Vancouver, B.C

Jan. 2025 – Sep. 2025

- Designed and implemented a **PostgreSQL database** on a **Raspberry Pi** to store and manage **2000+** sensor readings, including temperature, humidity, and timestamps.
- Created a **Python (Flask)** backend on the **Raspberry Pi** to fetch and serve sensor data to the frontend via a **RESTful API**.
- Developed a **Next.js** frontend with **React** and **CSS** to display sensor data. Integrated **Nivo.js** to create charts and graphs for tracking and analyzing streetlight data.

Technical Projects

Exercise Form Tracker

[GitHub](#)

- Developed a full stack application using **Python (Flask)** for the back-end and using **CSS, React**, and **JavaScript** for the front-end.
- Integrated **OpenCV** and **MediaPipe** to achieve **95%** accuracy in motion tracking and vector angle calculations, ensuring precise detection of user movements during exercises.

Finance Tracking Application

[GitHub](#)

- Designed a finance tracker application using **Java** for the back-end and **Swing** for the GUI, allowing users to manage financial lists of varying sizes and track transactions efficiently.
- Extensive unit testing using **JUnit**, achieving **95%** test coverage and validating **30+** methods and classes to ensure a bug-free user experience.

Game Behaviour Analysis Model

[GitHub](#)

- Designed a **K-Nearest Neighbors (KNN)** classification model using **Scikit-learn** to predict a player's experience level based on total hours played and age, analyzing a dataset of over **300** entries.
- Improved model accuracy from **70%** to **90%** by implementing hyperparameter tuning with **GridSearchCV** to identify optimal value of k.

Technologies

Languages: Python, Java, JavaScript, C, C++, C#, SQL, HTML, CSS, R

Libraries: Pandas, Matplotlib, NumPy, Scikit-learn, JSON, Swing, JUnit, React, MediaPipe, MySQL, PostgreSQL, Next.js, Nivo.js, Express.js, MS Test, .NET Framework

Tools: Replit, IntelliJ, VS Code, R Studio, Jupyter Notebook, Git, Jira, Visual Studio, Postman