Mushtaba Alyasseen

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EDUCATION

University of Calgary   **Expected Apr 2025**

BS in Software Engineering, BComm in Finance, Dean's List, cGPA: 3.73   *Calgary, Canada*

- **Relevant Coursework:** Data Structures & Algorithms, Database Systems, Computer Networks, Software Architecture, Software Testing, Operations & Supply Chain Mgmt, Security Analysis & Investments, Corporate Finance
- **Scholarships:** Alexander Rutherford Scholarship 2019, Jason Lang Scholarship 2020, 2021, 2022

EXPERIENCE

Outlier AI   **June 2024 – Present**

Freelance Software Engineer   *Calgary, Canada*

- Created **training data** for advanced **AI models**, with a focus on **large language models (LLMs)**, ensuring comprehensive coverage and data quality.
- **Evaluated** and **reviewed AI-generated code**, providing **detailed, human-readable rationales** for quality assessments to enhance code accuracy and functionality.
- **Solved** problems by writing **functional and efficient code** in languages such as **Python and SQL**, ensuring code quality before integrating into models.

Network Innovations - Work Integrated Learning   **Sept 2023 – Apr 2024**

Software Engineer   *Calgary, Canada*

- Developed a custom web-based solution for querying historical data from **IoT devices**, significantly improving data fetch performance, achieving a **96.7% reduction** in runtime for one month of data.
- Deployed a scalable, cloud-based application on **AWS EC2** using **Docker**, and optimized backend query performance by transitioning to **Polars**, achieving sub-30 second query times for 1-3 months of data, and efficiently managed memory usage through **lazy loading**.
- Implemented an **agile development** process, utilizing **Jira** for project tracking, and conducted **regular standups** and **stakeholder meetings** to meet project deadlines and milestones.

Schulich Ignite (Previously Google IgniteCS)   **Oct 2020 – Sept 2021**

Mentor/Teacher   *Calgary, Canada*

- Mentored a group of up to **6 students** (middle to high school) in **programming fundamentals** using **Python** on our custom **Ignite Aranite platform**.
- **Taught** programming remotely through **interactive exercises**, **live demos**, and fostered engagement by encouraging **student questions**.
- Held **post-session meetings** to provide feedback and collaborated with peers to **create lesson plans** for future sessions.

Association for the Advancement of Science and Engineering Education   **Jun 2020 – Jan 2021**

Front-end Developer   *Calgary, Canada*

- Collaborated in a team of six to rebuild a **responsive website** using agile methodologies and participating in the entire design and planning process with **UI** tools like **Figma**.

- Utilized **HTML**, **CSS**, and open-source frameworks such as **Bootstrap** and **React** to ensure scalability and functionality.
- **Managed source code** and version control using **Git** and **GitHub**, contributing to smooth team workflows and project development.

PROJECTS

Big Data Queries for IoT Metrics

Python, Polars, Pandas, Flask, React, AWS EC2/S3, Docker
- Developed a custom web application that efficiently retrieves and displays data from various **IoT devices** in the field.
- Optimized **query performance** to return 3 months of data in under 30 seconds using technologies like **Polars** through **iterative design**.
- Won **Second Place** at the **2024 Schulich Engineering Design Fair**.

Scholarly

SpaCy, OpenAI, Python, Flask, React, Docker
- Developed an **NLP-driven** web application, serving as an **educational tool** for students, offering chatbot/flashcard integration for active recall in an **interactive environment**.
- Won **First Place** and **$3000** at the **2023 Hunter Hub Hackathon** provided by **Propel Alberta**.

Biometric Projects

Python, NumPy, Matplotlib, SciPy, Pandas, Scikit-learn, Tensorflow
- Implemented a series of **biometric** systems projects focusing on tasks such as **signature** verification (GMMs), **fingerprint** analysis, **facial** recognition using PCA, and **hand gesture** recognition with LSTM deep learning.
- Explored **Bayesian Networks** for machine reasoning, applying statistical methods to biometric data for accurate identification and verification.

On The House

Firebase, React, MaterialUI, Express, Node.js, Postman, Selenium IDE
- Developed a full-stack web application inspired by online food recipe websites and blogs, featuring a visually appealing front-end.
- Implemented and tested API endpoints using **Postman** to verify functionality for **CRUD operations**, ensuring robust user interactions and data management.
- Utilized **Google Cloud Functions** and built a **REST API** for **Firestore** database interactions.

SKILLS

Languages: JavaScript, Java, Python, C/C++, HTML/CSS, SQL/MySQL
Developer Tools: Git/GitHub, Jira, Google Cloud Platform (Firebase), AWS (S3/EC2), Heroku, MongoDB, Figma, Postman, Selenium IDE, Docker, Grafana Cloud/k6
Frameworks: React, Bootstrap, Express, Node.js, JUnit, jMock
Other: Experienced in MS Office, MS Project, MS Access, PowerBI, Excel Pivot Tables/VLOOKUP