Danial Zoraiz Ramzan

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PROFILE

Third year student **studying Mathematics, Computer Science, and Data Science at UBC**. Have previous SWE internship experience, take part in two different teams at UBC Subbots and work at the Sauder School of Business. **Currently seeking SWE, Data Science and Analytics positions (up to 16 months) & willing to relocate**.

EDUCATION

University of British Columbia — **Anticipated Graduation: May 2026**

Bachelor of Science in Mathematics, Minor in Data Science — *Vancouver, BC*

Relevant Courses: Calculus I-III, Linear Algebra, Data Structures & Algorithms, Data Science, Machine Learning

EXPERIENCE

Software, Sound Localization Subteams — **October 2023 – Present**

UBC Subbots Engineering Design Team — *Vancouver, BC*

- **Modularized Python-based sound localization software** with real-time data pipelines, **enabling integration with our submersible's C++ system.**
- Configured and set up hardware by enabling global SSH access on Linux systems using ngrok, **allowing the team to securely remote into devices.**
- Updated submersible's ROS2 version to improve compatibility, **streamlining development for 13+ students.**

Learning Services Undergraduate Academic Assistant — **September 2023 – Present**

UBC Sauder School of Business — *Vancouver, BC*

- Delivered comprehensive IT and AV support to faculty, facilitating flawless class operations while producing edited recordings of lectures that **enhanced the learning experience for 300+ students per term.**
- Identified and proposed optimizations to inefficiencies by researching Workday REST calls to **reduce shift logging time by 50%** and **developing Python scripts to cut down on inefficiency.**
- Assisted in organizing the **Learning Analytics Hackathon with 80+ participants**, setting up meetings and providing advice on various aspects, contributing to its successful execution.

Software Engineer — **December 2023 – July 2024**

Lotus Addiction Therapy — *Caledon, ON*

- Developed and integrated secure authentication systems, **implementing JWT Web Tokens**, booking functionalities, and payment processing through Stripe, **using the PERN Stack.**
- **Dockerized the PostgreSQL database**, reducing setup & ensuring consistency across developer environments.
- Leveraged pgAdmin4 for database management & Postman to create RESTful routes, **reducing testing time by 70%**.

AI Venture Capital Deal Sourcing Extern — **April 2024 – May 2024**

igniteXL Ventures — *Palo Alto, CA*

- Made use of platforms like Crunchbase & theOrg to perform in-depth research & Perplexity for **prompt engineering.**
- Produced and presented a **concise and impactful VC investment summary** incorporating research insights.

PROJECTS

back&forth @ Learning Analytics Hackathon 2024 — **October 2024**

- Engineered a learning analytics tool using the **Canvas API, Python, and R** to extract and analyze online course discussions, explore participation trends, resulting in data-driven course improvement recommendations.
- Performed HTML data cleaning with **BeautifulSoup** on **70+ discussion threads.** Structured the content into CSV format, complemented by **sentiment analysis** using TextBlob to identify student interaction patterns.
- Introduced **back&forth**, an AI chatbot designed to encourage deeper engagement among students by prompting thoughtful interactions and providing personalized feedback.

Uncovered Interest Rate Parity: Empirical Study with Linear Regression — **August 2024 – Present**

- Performed an in-depth **empirical study on uncovered interest rate parity (UIP)** using linear regression models to assess if UIP holds in practice.
- Analyzed secured and unsecured risk-free rates such as **SOFR, CORRA, SONIA, TONAR**, sourced from reputable financial institutions including the **Bank of Japan** and **Federal Reserve**.
- Gained proficiency in using a **Bloomberg Terminal** for real-time data gathering and economic research, which significantly enriched my analysis and understanding of global interest rates.

Portfolio Website (danialramzan.github.io) August 2024 – Present

- Built a minimalist, responsive website using **Jekyll**, **HTML**, **CSS**, and **Liquid**, with deployment managed through GitHub Pages and CI/CD.
- Configured local development environment using **Ruby**, leveraging Gemfiles for dependency management.
- Employed **Google Analytics** for detailed insights into visitor behavior, enabling for data-driven improvements.
- **Ensured a responsive design** for a consistent & intuitive user experience across devices **(tested on 5+ devices)**.

Dynamic Billiards Simulator: Physics Simulation Project July 2024 – Present

- Simulated complex **billiard collisions** in Python, incorporating both **linear and angular dynamics** with a variable coefficient of restitution (COR) to model a wide array of realistic physical interactions.
- Enhanced the simulation's complexity by introducing features to **approximate the value of pi to 7+ decimal places through dynamic collision modeling**, based off a mathematical paper.
- Planned future developments include a **GUI implementation**, visual physics engine, and porting the program to C++ for improved computational efficiency.

Diabetes Classifier: Logistic Regression Project July 2024 – August 2024

- Conducted a **data science project** predicting diabetes risk using the **Pima Indians Diabetes dataset**, a dataset of **768 samples** and logistic regression, assessing model limitations and accuracy.
- Collaborated with peers on exploratory data analysis (EDA), data preprocessing, model training, and model evaluation, finally achieving more than **80% accuracy** on test data.
- Documented model challenges and proposed **improvements through alternative algorithms** and data handling techniques for better prediction accuracy.

Social Media Scraper: Automated Data Extraction Tool January 2024

- Contsructed a Python-based **data scraping tool** using **BeautifulSoup (BS4) and Selenium** to gather market rent prices to help price my summer sublet.
- Extracted post data from scoail media groups by **interpreting HTML class names and handling errors.**
- Implemented data cleaning and transformation processes using **Pandas** to support downstream analysis, storing results in CSV format for easy access.

Breaking Bad Habits Android App @ HackCamp 2023 November 2023

- Developed Android app in team of 4 to **address substance abuse** in British Columbia using Android Studio (Java).
- **Created a logging system** for users to track progress, emotions, and challenges in their rehabilitation journey.
- Incentivized self-care tasks by adding an **interactive map of nearby mental health facilities** with ratings.

FinanciallyFit: Reverse Attendance-Based Java Billing App September 2023 – December 2023

- Pioneered a totally **novel full-stack gym billing system**, which imposes financial penalties for missed gym sessions.
- Implemented user management, bill generation, data persistence, etc with **testing using JUnit** and an intuitive GUI.
- **Achieved 102% on course project**, integrated user stories and **CI/CD** principles, streamlining future add-ons.

Lead Data Scientist, Pulsar Classifier March 2023 – April 2023

- **Led a team of 4 people** on a project to accurately classify pulsars using the **KNN machine learning classification algorithm** on the HTRU2 dataset, focusing on 8 key variables for predictive analytics using R.
- Produced a pulsar classifier with a **>90% accuracy on test data while avoiding overfitting.** Achieved 95% in the project, performing EDA, model training, and outlining our process in Jupyter Notebooks for a streamlined workflow.

OPEN SOURCE CONTRIBUTIONS

- Cufflinks Python Library
- UBC Subbots
- UBC PLP

TECHNICAL SKILLS

Languages: PHP, Java, Python, C/C++, SQL (Postgres), JavaScript, TypeScript, HTML/CSS, R, Racket, Ruby
Frameworks: React, Node.js, Swing, JUnit, Express.js, TypeORM, Tailwind CSS, Jekyll
Developer Tools: Git, Docker, VS Code, Android Studio, IntelliJ, WebStorm, DataSpell, Jupyter Notebook
Data Science/Machine Learning: Pandas, SciPy, NumPy, matplotlib, Tidyverse, Tidymodels, kknn, GGally, readr