Danish Hakim

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Education

University of British Columbia — Vancouver, BC
Bachelor of Applied Science, Biomedical Engineering. Minor in CS | Presidential Scholar — *Sept. 2022 – May 2027*

Experience

TELUS - AI Accelerator — May 2025 – Present
Data & AI Engineering Intern — *Vancouver,BC*

- Architected a production-ready **Model-Based Reinforcement Learning (MBRL)** system to optimize HVAC control by modeling building dynamics as a Markov Decision Process and computing optimal policies with Value Iteration; projected to reduce energy usage by **20% per site** and save **$450K over 1.4 years**.
- Built a thermodynamic prediction engine using **Linear Regression** trained on **200k+ time-series** sensor records, integrating it into a **state-space search** algorithm that simulates 60-minute horizons to minimize a multi-objective cost function (energy price vs. thermal comfort)
- Modernized HVAC control infrastructure by replacing legacy **PHP/Shell** tooling with a **Python-based microservice** supporting asynchronous **SNMP** device interaction, structured logging, and secure remote execution.
- Contributing as first author to research paper for **HCI International 2026** exploring SHAP and LIME for improving transparency and trust in AI-driven enterprise tools.

Fennec.AI — Sep. 2024 – Apr. 2025
FP&A Analyst (Part-time) — *Vancouver, BC*

- Built financial and revenue projection models in **Python** used for investor and VC pitch decks, contributing to a successful **$300K pre-seed raise** at a **$10M valuation.**
- Developed automated reporting workflows with **SQL** and **Excel**, reducing manual KPI tracking for founders.
- Collaborated with product leadership to translate operational constraints into model-driven projections.

UBC BioProducts Institute — May 2024 – Apr. 2025
Material Analysis & Bioengineering Research Intern — *Vancouver, BC*

- Led development of a low-cost artificial corneal stroma prototype using sustainable biomaterials in collaboration with an ophthalmologist at Vancouver General Hospital.
- Built quantitative analysis pipelines in **Python** and **R** for tensile strength, optical transmission, and mechanical modeling; achieved **35%** higher strength and **1.1%** clarity improvement over baseline.
- Presented research at ACS Spring 2025 Conference (13,000+ attendees) and selected for the competitive **Sci-Mix session** for outstanding abstracts.

Projects

PhishNet.AI | *Python, Flask-RESTX, HTML/JavaScript, Scikit-learn, SVC, TF-IDF* — July 2025

- Engineered a **TF-IDF + SVC** phishing classifier achieving **98% accuracy**, **0.974 ROC AUC**, and **97% recall** on the minority spam class via dataset undersampling.
- Designed a production-structured inference pipeline with **Flask-RESTX**, including preprocessing, feature extraction, model loading, and real-time prediction endpoints.

Project GitHub

MindTap: Assistive EEG Headset | *MATLAB, Signal Processing, SolidWorks* — Sep. 2023 – June 2024

- Engineered a neural-control interface that translates EEG activity into iOS switch-accessibility inputs, enabling hands-free device interaction for users with motor disabilities.
- Implemented a full EEG processing pipeline in **MATLAB**, including band-pass filtering, artifact removal, statistical feature extraction, and binary classification of activation patterns.
- Finalist in the **2024 Simon Cox Design Competition** for accessibility and neurotechnology innovation.

Technical Skills

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R, PHP
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, BigQuery, IntelliJ
Libraries: pandas, NumPy, Matplotlib, gymnasium, PySNMP, TensorFlow