

FARHAN KHAN

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Education

University of Alberta

Bachelor of Science in Computer Science and Artificial Intelligence (SIP/Co-op)

Expected Graduation: May 2027

Edmonton, Alberta

Experience

Software Engineering Intern

May 2025 - December 2025

Inova Geophysical

Calgary, Canada

- Developed production-grade services in C#.NET 8 to process 500+ daily records, emphasizing reliability, correctness, and maintainability.
- Designed and deployed a scalable REST API on Azure (SQL, App Services, Key Vault) supporting secure, conflict-free assignment of 10,000+ entities per batch.
- Built a React (TypeScript) + .NET web application used by 50+ global users, with real-time validation and fault prevention.
- Improved code quality and correctness by increasing automated test coverage by 30% using NUnit and Moq.
- Built and maintained CI/CD pipelines for automated build, testing, and deployment across dev and production environments.

AI/ML Research Intern

September 2024 - January 2025

Remote Research FIRE Program, NUS

Singapore (Remote)

- Built a multimodal mental health assistant (text, audio, video) using OpenAI APIs; improved emotion detection by 20%.
- Applied transfer learning across modalities to increase robustness; collaborated with a global research cohort on experiments and deployment.
- Deployed a real-time support chatbot with inference-time safeguards and logging.

Data Analytics/ML Summer Internship

May 2024 - July 2024

National University of Singapore (NUS) & AWS

Singapore

- Led a team building a MobileNetV2 model reaching 95% accuracy for driver-behavior classification.
- Deployed via AWS (S3, EMR, Lambda, SageMaker); reduced fleet alert response times by 30%.
- Worked cross-functionally (4-person team) to deliver a Streamlit monitoring front end.

Projects

Intelligent BIM Query Agent (RAGTAG) | Python, Pandas, SQLite, Neo4j, NLP

PCL Construction, January 2026

- Engineered a scalable ETL pipeline to transform complex 3D IFC construction data into structured SQL databases using Python and Pandas.
- Designed a hybrid database architecture utilizing SQLite for attribute querying and Neo4j for topological routing, optimizing AI handling of quantitative and spatial queries.
- Implemented automated data cleansing and validation scripts to ensure 100% data integrity before ingesting raw construction data.

Sentio Mood Tracking App | Java, Android, Firebase

March 2025

- Led a 6-person Agile team across 3 sprints to ship a mood-tracking app with Firebase Auth/Firestore supporting 100+ user profiles with offline sync.
- Engineered real-time input validation reducing sign-up errors by 40% and an event-logging system capturing 1,000+ mood entries for trend analysis.

Skills

Languages: Python, Java, C, C++, C#, TypeScript, JavaScript, HTML/CSS, SQL, MongoDB

Frameworks/Libraries: React, .NET 8, TensorFlow, PyTorch, Flask, NumPy, Pandas, Matplotlib

Developer Tools & Cloud: Visual Studio, VS Code, Git, SVN, Docker, Linux, Jira, Azure, AWS (S3, EMR, Lambda, SageMaker), GCP

Testing: NUnit, Moq, FluentAssertions, JUnit

Productivity: Excel, Word, PowerPoint, SharePoint, Teams, Outlook, OneDrive

Relevant Coursework

Data Structures & Algorithms, Software Methodology, Database Management, Artificial Intelligence, Machine Learning, Neural Networks, Reinforcement Learning, Search & Planning in AI, Visual Recognition, Formal Systems & Logic, Network Security

Extracurricular

Regional/National Badminton Player

2022 - Present

Canada, Saudi Arabia

- Ranked #87 in Alberta; formerly #2 in Saudi Arabia (Singles & Doubles).