

Arham Naqvi

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Core Competencies

- **Languages:** Python, SQL, R, Bash, LaTeX, JavaScript, HTML, CSS
- **Data Science:** PyTorch, Scikit-Learn, Pandas, NumPy, OpenCV, Ultralytics, ONNX Runtime, Librosa
- **Analysis & Visualization:** Power BI (Power Query, DAX), ArcGIS, Matplotlib, ggplot2, Excel (PivotTables, VLOOKUP)
- **Tools & Infrastructure:** Git/GitHub/Actions, Linux (Arch, Debian), Jupyter, PostgreSQL
- **Specializations:** Geospatial Analysis, Real-Time ML Inference, Statistical Modelling, ETL Pipelines, Data Visualization & Dashboarding, Data Entry & Reporting, Public Safety Analytics

Professional Experience

Collision Reporting Specialist, Accident Support Services International Ltd.

650 Rossland Rd E, Oshawa, ON | May 2022 – February 2023, August 2025 – present | Contract

- Processing **50+ daily collision reports** and up to **3 simultaneous cases** in a high-volume, fast-paced environment while meticulously extracting and verifying confidential collision data
- Achieving **99%+ data entry accuracy** updating **MTO databases** via the **CROMS** system used by government agencies and police services for traffic safety and law enforcement decision making
- Successfully liaise with police officers in cases of conflicting information or illegal activity
- Frequently collaborate with collision team balancing work and ensuring timely report completion
- Patiently explain regulatory mandates in-person and over the phone, leveraging fluency in English, Urdu and Hindi while exercising assertive communication and empathetic listening

Volunteer Research Assistant, Affective Data Science Lab

2000 Simcoe St N, Oshawa, ON | May 2024 – August 2024

- Developed and deployed [Audiomorph](#), a Python-based noise injection tool that augments key acoustic audio file properties (frequency, amplitude, and power level)
- Conducted thorough data cleaning, preparation and analysis of the [RAVDESS](#) speech audio dataset to learn critical parameters, routinely communicating progress to lab supervisor
- Independently learned and applied the mathematics of digital signal processing including the Fast Fourier Transform, Complex Analysis and signal filtering
- **Impact:** Enabled psychoacoustic research investigating human emotional perception under degraded audio conditions

Peer Discussion Leader, STEM for Everyone

399 Chaleur Ave, Oshawa, ON | June 28th, 2024

- Led group discussions of **30+ students** from a special needs high school regarding post-secondary preparation

Calculus 2 Teaching Assistant, Ontario Tech University

2000 Simcoe St N, Oshawa, ON | January 2024 – June 2024

- Led tutorials and office hours for **100+ students across 3 sections**
- Demonstrated leadership, public speaking, communication skills, and mastery of complex mathematical concepts lecturing **rooms of 30+ students** in a high-stakes educational setting
- Proficient use of Office 365 while independently formulating and grading weekly lessons and assessments, collaborating with supervisors, maintaining student records and presenting lessons

Key Projects

Intersection Collision Analysis: Real-Time Traffic Collision Insights and Forecasting

Python (PyTorch, Pandas, NumPy, ONNX Runtime), ArcGIS Maps SDK, PostgreSQL (Neon/Supabase), Power BI, ONNX Model Inference (Browser), HTML/CSS/JavaScript | Expected Q1 2026

- Created ETL pipelines for data visualization and dashboard generation using open collision and weather timeseries data for the Greater Toronto Area
- Real-time ML inferencing with **80%+ accuracy** on KPI predictions using live weather forecasts
- Light-weight modern web development and database design for optimized UI presentation
- **Impact:** End-to-end geospatial analytics enabling ongoing predictive collision risk assessments for law enforcement and municipal planning

Vision Pong: Real-Time Computer Vision Hand Tracking & Collision Physics Simulation

Python (Numpy, Pandas, OpenCV, PyTorch, Ultralytics, PyGame) | April 2025

- Engineered data pipeline: collected, cleaned, labeled, and augmenting **17000+ images**
- Trained a YOLO-based deep learning CNN **achieving 94% accuracy** on real-time video stream hand detection, demonstrating model training & CV proficiency
- Implemented live ball collision physics simulation with multi-threaded rendering pipeline
- **Applications:** Human-computer interaction, accessibility technology and motion control systems (e.g., assistive devices for motor impairments)

Washington Electric Vehicle Market Analysis

R (ggplot2, dplyr, ggthemes) | April 2024

- Conducted EDA on **177,000+ EV purchase records**, extracting brand KPIs and market trends
- Created publication-ready visualizations in ggplot2 to communicate manufacturer performance and geographic growth trajectories
- **Outcome:** Demonstrated ability to translate raw data into actionable business insights

Education & Certifications

B.Sc. (Honours) Computer Science, Minor in Mathematics, Specialization in Data Science

Ontario Tech University | Class of 2025

- **Graduated with Distinction:** cGPA 3.55
- **Core Subjects:** Probability & Statistics, Machine Learning, Numerical Analysis, Data Analysis and Mining, AI, Systems Programming, Fullstack & Database Design, Data Structures & Algorithms
- **Honors:** Scholarship 2022-2023; President's List (F22, W23, F23, F24); Dean's List (W25)

Microsoft Certified: Power BI Data Analyst Associate (PL-300)

Expected Q1 2026

- Data modeling and transformation using **Power Query**
- Advanced analytics using Data Analysis Expressions (**DAX**)

ISC2 Certified in Cybersecurity (CC)

Expected Q2 2026

- Information Security principles and risk management
- Network security operations and access control
- Incident response and business continuity planning

IBM Databases and SQL for Data Science with Python

Issued January 2025

- Interfacing with relational databases using Jupyter Notebooks and Python
- Executing SQL queries for CRUD operations

Comptia A+

Valid Until April 2028

- Computer networking, infrastructure and cloud fundamentals
- Device troubleshooting and repair
- Proficiency in Linux and Windows