

Arham Naqvi

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Core Competencies

- **Languages:** Python, SQL, R, Bash, LaTeX, JavaScript, HTML, CSS, C++, Java, C
- **Data Science:** PyTorch, Scikit-Learn, Pandas, NumPy, OpenCV, Ultralytics, ONNX Runtime, Librosa
- **Analysis & Visualization:** Power BI, QGIS, Matplotlib, ggplot2, Excel
- **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 **80+ 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 while exercising assertive communication and empathetic listening

Volunteer Research Assistant, Affective Data Science Lab (link)

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

- Developed and deployed **Audiomorph (link)** 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 (link)** 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 (link)

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 (link)

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 (link)

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 (link)

Issued January 2025

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

CompTia A+ (link)

Valid Until April 2028

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