

Huzaiifa Farhan

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EXPERIENCE

Ontario Power Generation

Pickering, Ontario

Quantitative Methods and Software Intern

May 2025 - Current

- **Monitored 1,500+ assets** across Nuclear, Thermal, and Renewable fleets using **Advanced Pattern Recognition (APR)**, preventing 48 equipment failures and **\$1.5M+** in avoided costs.
- Designed **condition monitoring algorithms** and automated alerts to detect high-consequence failure precursors, enabling proactive maintenance decisions.
- Delivered **data visualizations** and interactive **Power BI** dashboards in anomaly reports to support cross-discipline teams with actionable insights.
- Developed a **full-stack case management system** (React, Node.js, SQL) to centralize analyst workflows; reduced time-to-case-closure by **30%**.
- Tested embedding models in **Databricks** to boost **ML-driven** anomaly detection; managed projects in **Azure DevOps** for smooth deployment.

IKO Industries Ltd

Brampton, Ontario

Reliability Engineer

May 2021 – Aug 2021 | Jan 2022 - Apr 2022

- **Optimized Plant Components:** Streamlined plant systems by developing a parts database using Excel and SQL, enabling efficient real-time access for supervisors.
- **Preventive Maintenance Development:** Automated maintenance schedules using VBA to ensure proactive systems upkeep, minimizing downtime.
- **Failure Mode Analysis:** Conducted detailed failure analysis, applying data-driven insights to optimize system reliability and prevent costly breakdowns.

KGS Research

Toronto, Ontario

Project Manager

Sept 2020 – Nov 2020

- **Project Efficiency:** Managed up to 5 simultaneous survey projects using advanced Excel techniques, increasing productivity by 20%.
- **Data Management:** Developed automated data processing tools in VBA, improving accuracy in quota reporting for a team of 100+ call center agents.

PROJECTS

GLOAB - Discount Fashion Marketplace: Built MVP connecting small apparel vendors with customers for clearance/overstock sales; implemented vendor dashboards, payment integration, and analytics for sales optimization.

Full-Stack Inventory Management App: Designed and deployed an inventory system using **React, Node.js, AWS Lambda, DynamoDB, S3, and API Gateway**, enabling scalable CRUD operations and secure authentication via AWS Cognito.

Pathfinding Visualizer: React-based tool implementing **Dijkstra's algorithm** with optimized complexity and real-time visual animations for shortest-path exploration.

EDUCATION

OntarioTech University

Oshawa, Ontario

Bachelor of Engineering in Software

Sept 2022 - Current

- Focused on AI, machine learning, and algorithm development, with extensive experience in Python and other ML frameworks.
- Relevant Coursework: Object Oriented Programming, Web Programming, Data Structures, Algorithms, AI, and others.

University of Waterloo

Waterloo, Ontario

Bachelor of Applied Science in Chemical Engineering

Sept 2019 – April 2022

- Developed a strong foundation in engineering problem-solving, data analysis, and process optimization.