Hind Mukhtar

Toronto, Ontario | Hind.mukhtar@gmail.com | +1-(647)-381-9263 | Website | LinkedIn | Google Scholar

Education

University of Ottawa, PhD in Electrical & Computer Engineering — Sept 2021 – Sept 2026

University of Ottawa, Master in Electrical & Computer Engineering — Sept 2019 – May 2021

Queen's University, Bachelor in Electrical Engineering — Sept 2014 – May 2019

Licensed Professional Engineer (P.Eng), Ontario — Dec 2024 – Present

Experience

Senior Data Scientist, Gogo Business Aviation – Ottawa, Ontario — Dec 2024 – Present

- Partner with executive leadership to define and execute company-wide AI strategy, leading initiatives in network performance forecasting, anomaly detection, and predictive capacity planning across large-scale distributed communication systems.
- Lead real-time monitoring architecture for LEO, LTE, and 5G product launches, define performance KPIs with engineering and product teams and build scalable data pipelines enabling proactive fault detection and faster incident response.
- Build multi-variable forecasting models incorporating historical demand, projected growth, and allocation constraints to inform global satellite bandwidth allocation and provider contract strategy.
- Design and train transformer-based ML models on 10M+ records using AWS GPU clusters, implementing reproducible training pipelines and improving predictive performance across large-scale spatial-temporal datasets.
- Apply large language models to structure and classify high-volume operational logs, automating fault triage workflows, significantly reducing manual investigation during incident response.

Data Scientist, Satcom Direct – Ottawa, Ontario — Jan 2023 – Dec 2024

- Built SQL queries, reporting pipelines, and dashboards to support engineering and product decision-making.
- Supported backend infrastructure migration, validating data integrity and ensuring uninterrupted workflow continuity across production environments.
- Integrated aircraft geolocation, satellite beam coverage, and network telemetry into unified spatial-temporal datasets to power predictive performance modeling.

Hardware Engineer, Satcom Direct – Ottawa, Ontario — June 2019 – Jan 2023

- Designed and optimized multi-layer RF circuit boards for satellite communication systems, including simulation and RF parameter tuning using ADS and Altium Designer.
- Developed automated RF test workflows using Python and LabView and collaborated cross-functionally across hardware, software, and systems engineering teams.

Publications

QoS Prediction for Satellite-Based Avionic Communication Using Transformers, IEEE TMLCN — Januray 2026

Air Traffic and Usage Predictions in Avionic Communications using Attention Based VAEGAN Model, IEEE ICMLCN — May 2024

Technical Skills

Programming: Python, SQL, C/C++ (familiar)
ML Frameworks: PyTorch, TensorFlow, Transformer architectures, LLM integration using Hugging Face, Amazon Chronos time-series foundation models
Data Visualization: Power BI, Tableau, Plotly, Dash, SQL Server Reporting Services (SSRS)
Cloud Services: AWS (EC2 GPU, Athena, Redshift), Azure (Functions, DevOps), CI/CD
Data Engineering: Microsoft SQL Server, Prefect