

Hind Mukhtar

Ottawa, Ontario | Hind.mukhtar@gmail.com | +1-(647)-381-9263 | hindmukhtar.github.io

www.linkedin.com/in/hind-mukhtar/ | github.com/HindMukhtar

Education

University of Ottawa , PhD in Electrical & Computer Engineering	Sept 2021 – Sept 2026
• Thesis: AI-Enabled Avionic Communications for Optimizing In-Flight Network Connectivity Experience	
University of Ottawa , Master in Electrical & Computer Engineering	Sept 2019 – May 2021
• Thesis: ML-Enabled Localization in 5G & LTE Networks Using Image Classification & Deep Learning	
Queen's University , Bachelor in Electrical Engineering	Sept 2014 – May 2019

Experience

Data Scientist , Gogo Air (Acquired Satcom Direct) – Ottawa, Ontario	Jan 2023 – Present
• Designed and deployed predictive ML models for satellite communication systems, including: <ul style="list-style-type: none">– Sequence-to-sequence transformer forecasting network performance along flight paths– Signal-to-noise ratio (SNR) prediction model leveraging aircraft location and satellite coverage– Applied large language models (LLMs) to parse and process aircraft communication text logs, integrating unstructured data into predictive modeling workflows	
• Led company-wide AI initiatives, introducing ML solutions to optimize network performance and developing an internal AI/ML library to accelerate experimentation and training	
• Performed statistical analyses quantifying the impact of demand growth on satellite networks to support provider capacity planning	
• Architected real-time monitoring pipelines on Azure (Functions, Durable Functions, Blob Storage) enabling live metric tracking, anomaly detection, and proactive issue resolution	
• Integrated Prefect for orchestration, automating workflows, deployments, and pipelines across departments	
• Automated reporting pipelines (performance dashboards, usage reports, TAM analysis) to support data-driven decision-making across sales and leadership	
Hardware Engineer , Satcom Direct – Ottawa, Ontario	June 2019 – Jan 2023
• Designed and developed multi-layer RF circuit boards for avionic satellite communication systems	
• Simulated and optimized RF circuits in ADS, with focus on RF parameter tuning.	
• Designed multi-layer PCBs using Altium Designer	
• Created and executed test plans for RF systems; automated testing with Python and LabView	
• Collaborated with cross-functional teams (hardware, mechanical, software, systems) on design projects	

Publications

Network Performance Prediction in Avionic Communication using AI	July 2025
<i>Hind Mukhtar</i> , Raymond Schaub, Melike Erol-Kantarci arxiv.org/abs/2504.14443	
Air Traffic and Usage Predictions in Avionic Communications using Attention Based VAE-GAN Model	May 2024
<i>Hind Mukhtar</i> , Raymond Schaub, Melike Erol-Kantarci ieeexplore.ieee.org/abstract/document/10625144	

Technical Skills

Programming & ML Frameworks: Python, PyTorch, TensorFlow, SQL, C/C++ (familiar)
Data Visualization: Power BI, Tableau, Plotly, Dash
Databases & Data Engineering: Microsoft SQL Server, Amazon Athena, Amazon S3, Azure Containers
Cloud Platforms: Microsoft Azure, Amazon AWS