Omar Hayat

+1-613-981-2427 · omar.hayat613@gmail.com · linkedin · github · personal site

EDUCATION

UNIVERSITY OF WATERLOO — Dec 2025
Masters of Mathmatics, Computational Mathematics — Waterloo, ON
- *Reserach Area: Transformers for shrot-term atmospheric prediction*

UNIVERSITY OF OTTAWA — 2023
Bachelors of Science, Computer Science and Mathematics — Ottawa, ON

PROFESSIONAL EXPERIENCE

National Research Council of Canada — May 2022 – Dec 2022
Data Engineering Intern | python, SQL, Dash, Excel, GitLab — Ottawa, ON
- Reduced hours of weekly labor time for researchers studying the environmental impact of public transportation systems and the efficacy of a remote railway safety inspection process; automated data preprocessing with Python scripts and satisfied data requests by performing SQL queries on a PostgreSQL management system.
- Introduced an automated data loading pipeline built in Python which processed raw data in various file formats (.xlsx, .csv, .wav etc.) sourced from a rail telemetry system and safety inspection reports; designed a data table in a PostgreSQL environment to house processed data and designed tests to check for table correctness.
- Delivered a dashboard web-application built with Python and Dash for a railcar inspection research project; utilized SQL to generate queries live based on the selected filters.

Financial Transactions and Reports Analysis Centre of Canada — Sep 2021 – Dec 2021
Data Scientist Intern | python, numpy, pandas, R, tidyverse, SQL, Git — Ottawa, ON
- Assisted the Canadian financial intelligence agencies' elite data analytics division to detect, deter and investigate attempts at terrorist financing and money laundering; gained intensive training in data security, integrity and privacy in relation to financial institutions and their transaction systems; built domain knowledge on banking systems and government financial regulatory policy.
- Expedited development of a time-series analysis tool to monitor and detect suspicious transaction behavior working with python, R and SQL; researched extensively on mathematical theory behind anomaly detection methods and implementations in practice via the Scikit-learn and tidyverse libraries.
- Expanded and improved existing documentation on in-house scripts by writing clear explanations of important assumptions taken and appropriate use cases; introduced comments to existing code to improve readability for future developers.

Novartis International AG — May 2020 – Dec 2020
Data Scientist Intern | python, numpy, pandas, R, TensorFlow, Excel — Remote Canada
- Assisted supply chain management team in building high fidelity prediction models for consumer buying behavior; compared performance of LSTM neural network, facebook prophet and ARIMA forecasting models built with tensorflow, prophet and tidyverse libraries respectively, leveraging 10 years of sales data; communicated findings in end of term presentation to non-technical upper management audience.

SKILLS

Languages: Python, SQL, Latex, R
Libraries: pandas, NumPy, Scikit-learn, TensorFlow, keras, prophet, Tidyverse
Tools: Git, Neovim, Anaconda, Spyder IDE, PostgreSQL, RStudio

AWARDS

i-Comp-Data Fellowship ($5,500, 2024); Dean's Honors List (2018-2023); Novartis Health Tech Challenge Winner (McGill University Hackathon, 2020)