WAQAS BIN HAMED

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PROGRAMMING SKILLS

- **Languages**: Python (NumPy, Pandas, scikit-learn, PyTorch, TensorFlow), SQL, MATLAB, R, Spark, C/C++
- **Tools**: Linux, Docker, Git, QlikView, Tableau, Google Cloud Platform, Amazon Web Services (certified CCP)

WORK EXPERIENCE

University of Waterloo — Waterloo, ON
Graduate Student Researcher — September 2022 – December 2022
- Developed SONNMF (Sum-of-Norms Nonnegative Matrix Factorization) a novel machine learning method for automatic model order selection in NMF
- Leveraged SONNMF for spectral image analysis to accurately identify geological features
- Published open-source Python package for NMF algorithms

Symboticware — Sudbury, ON
Data Scientist — May 2022 – August 2022
- Optimized NLP algorithm with batch processing, reducing runtime by 95%; improved classification accuracy by 10% using unsupervised domain adaptation
- Configured AWS infrastructure and authored Lambda functions for simulating remote sensing data, enabling scalable testing and product capabilities

Big Byte Insights — New York, NY
Data Scientist — July 2020 – August 2021
- Built a competitive pricing dashboard, contributing to an 8% increase in user growth for an grocery delivery client
- Deployed demand forecasting models using time series analysis, reducing out-of-stock incidents by 15% and optimizing inventory management
- Led the development of intellistocks.ai - a website for tracking US stocks-related social media activity
- Trained NLP models for sentiment analysis and named entity recognition (NER), extracting features from over 1000 quarterly earnings reports and call transcripts of NYSE and Nasdaq listed companies
- Developed predictive models using alternative data and machine learning, enabling accurate forecasts of quarterly earnings for US homebuilders, self-storage companies, and other real estate sectors
- Streamlined ETL processes in codebase used to collect data from 400+ websites reducing runtime by 20% on average; designed Tableau dashboards to monitor data quality and reliability

EDUCATION

University of Waterloo — Waterloo, ON
Master of Mathematics in Computational Mathematics — September 2021 – December 2022
- Coursework: Data Science, Machine Learning, Artificial Intelligence, Numerical Analysis, Mathematical Optimization
- Honors: 2021 International Master's Award of Excellence (IMAE), 2022 Outstanding Teaching Assistant Award

Middle East Technical University — Ankara, Turkey
Bachelor of Science in Environmental Engineering — October 2015 – July 2020

RELEVANT PROJECTS

Quora Duplicate Questions Detection — February 2022 – April 2022
- Fine-tuned T5 transformer model to paraphrase questions and utilized pre-trained SBERT model to augment dataset
- Trained SBERT model with the augmented dataset to achieve 5% higher F1 score compared to state-of-art models

Movie Recommendation Engine — May 2020 – July 2020
- Implemented collaborative filtering techniques (e.g., user-based, item-based) to create a movie recommendation engine
- Developed a user-friendly mobile app using Flutter for users to receive personalized movie recommendations

Automated Image Captioning System — October 2022 – December 2022
- Developed a deep learning model using CNN and LSTM architectures to generate captions for images
- Achieved a BLEU score of 0.75, providing accurate and meaningful captions for a diverse range of images