

MUNZIR ABDULMAJID

mu.unzir@gmail.com | +1 (206) 899-6615 | linkedin.com/in/munzir-abdulmajid | github.com/MunzirH

EXPERIENCE

Data Scientist | Jacobs Solutions Inc.

Seattle, WA | August 2022 – Present

- Pioneered the adoption of Azure OpenAI services for an advanced analysis framework that automated the generation of summaries, sentiment analysis, and drafting of responses to public comments. This innovative approach has significantly streamlined the engagement process, facilitating prompt and informed interactions while delivering time and resource savings for Jacobs and our clients.
- Refined text analysis techniques by incorporating Retrieval-Augmented Generation (RAG) and advanced Chunking/Chaining methods, significantly enhancing the accuracy and speed of extracting actionable insights. This specialized approach bolstered strategic decision-making, reduced model hallucinations, and elevated the quality of outcomes for key projects.
- Developed a project management application by utilizing advanced large language models within Foundry by Palantir. This tool innovatively integrates intricate company data with predictive analytics to draft proactive strategies that mitigate issues and risks, enhancing project workflow efficiency and improving the resilience of decision-making processes.
- Serving as the lead for Alluvial platform in the US, enabling enhanced stakeholder collaboration through seamless sharing of PowerBI reports, containerized applications, 3D Model Data, GIS applications and related resources. This initiative has directly led to a 154-fold reduction in subscription costs, highlighting effective facilitation of resource sharing and cost efficiency.
- Implemented Sift 3D Model Viewer within Power BI for the NEOM project in Saudi Arabia, transforming the NEOM project with immersive, detailed visualizations of city infrastructure, elevating data analysis and stakeholder engagement.

Research Assistant | University of Washington

Seattle, WA | June 2021 – June 2022

- Developed novel approach integrating physics-informed neural networks (PINNs) and sparse identification of nonlinear dynamics (SINDy) to extract interpretable and generalizable dynamical system models from complex time-series data.
- Predicted Burger's equation with less than 0.90% error by applying SINDy on sparse data from traveling shock waves.
- Implemented ODEINT and RK45 numerical solvers in Python for solving the predicted Burger's equation, and integrated automatic differentiation with deep neural networks to generate physics-informed neural networks (PINNs) for improved model accuracy.
- Evaluated the performance of ODEINT, RK45, and solve_ivp, highlighting the superior accuracy and robustness of ODEINT in solving the system of equations.

Project Coordinator | Paul G. Allen School of CSE

Seattle, WA | September 2020 – June 2021

Led and managed weekly meetings, reviewed project proposals, and provided technical and data-related support for these initiatives:

- OpenSideWalks: creating a connected network of pedestrian paths for analysis of access and routing.
- Accessmap.io: providing customized, accessible routing directions for people with mobility limitations.

EDUCATION

University of Washington | Masters in Data Science | 3.9/4.0 GPA

Seattle, WA | September 2020 – June 2022

University of Khartoum | B.Sc in Mechanical Engineering | 3.7/4.0 GPA

Khartoum, SD | November 2012 – November 2017

PROJECTS

Optimization Techniques for Solar Chimney Power Plants: Python, Deep Learning, CFD

- Utilized Computational Fluid Dynamics (Ansys Fluent) to simulate airflow through a power plant's chimney and calculate the power output of the turbine.
- Improved the accuracy of geometrical optimization by using Artificial Neural Networks (ANN) and Adaptive Network-based Fuzzy Inference System (ANFIS), resulting in higher performance and increased power extraction.

COVID-19 Vaccine Appointment Reservation System: SQL, Microsoft Azure, Python

- Developed the database schema and entity relationship diagram, and established a Microsoft Azure SQL database server for a robust, reliable system.
- Implemented Python code for handling patient demographics, vaccine inventory, and medical professional availability, ensuring an interactive user experience and secure data management.

SKILLS

Python (NumPy, Pandas, Scikit-Learn), Machine Learning, Deep Learning, Natural Language Processing, Generative AI, Large Language Models (LLMs), Azure DevOps, Azure OpenAI, SQL, Plotly, R, Shiny, Power BI, Docker, Kubernetes, Microsoft Azure, PyTorch, TensorFlow, Git, Statistics, Excel, CUDA, Data Analysis and Visualization, MATLAB, Mechanical Design.