SHAGHAYEGH "SHAY" ROUHI

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EDUCATION

University of Nebraska-Lincoln, Lincoln, NE
Bachelor of Arts, May 2026   GPA: 3.86/4.0
Major: Data Science, Department of Mathematics | **Minors**: Computer Science, Math, Statistics
Relevant Coursework: Machine Learning, Deep Learning, Data Modeling and Database Design, Statistical Modeling

RELEVANT EXPERIENCE

Data Scientist Intern, *Nebraska Department of Transportation (NDOT)*, Lincoln, NE | May 2024 – Present
- Develop a Convolutional Neural Network (CNN) in PyTorch to detect sidewalks from geospatial imagery providing data for improvements in pedestrian safety infrastructure.
- Build a predictive statistical model using Multiple Linear Regression in R to forecast future federal performance measures and improve mid period reporting and target adjustment.
- Create interactive Power BI and Tableau dashboards to help the internal stakeholders track performance over time, using data cleaning, analytical, and visualizations skills.
- Conduct a validation study comparing AI powered traffic cameras and traditional ATR sensors against manual counts, using statistical analysis to support investment decisions.

Undergraduate Research – Department of Mathematics, *University of Nebraska-Lincoln,* Lincoln, NE | September 2024 – present
- Develop a nonlocal deep neural network (DNN) training method by replacing classical derivatives with integral operators, enabling robust handling of discontinuous ReLU activations and improving model accuracy and stability.
- Validate the proposed nonlocal DNN by performing case studies on multiple datasets and DNN parameters in Python (NumPy, TensorFlow), demonstrating the effectiveness of nonlocal methods.
- Supported by funding from Undergraduate Creative Activities and Research Experience (UCARE) program (September 2024 – May 2025), resulting in a poster presentation at UNL Research Day.

ADDITIONAL SKILLS

Python, R, SQL, SAS | PyTorch, TensorFlow, scikit-learn, Pandas, NumPy | Power BI, Tableau, Shiny, Leaflet | AWS, GitHub Actions (CI/CD), Model Deployment (Flask/FastAPI) | Agile Methodology | Version Control (Git)

PROJECTS

Resume-Job Matcher AI | Live Demo
- Built an AI-powered web app that matches resumes to job descriptions using NLP, semantic similarity, and key phrase extraction.
- Provides real time, and actionable feedback on missing skills and areas for improvements using state-of-are transformer models including KeyBERT and FLAN-T5
- Implemented Streamlit UI and hosted the app on Hugging Face Spaces for easy access by users.
- Integrated CI/CD pipelines with GitHub Actions to automate testing and enhance code reliability and development speed.

E-commerce Customer Churn Analysis & Dashboard
- Utilizing SQL and Power BI, analyzed customer churn behavior in an e-commerce platform to derive strategic business decisions.
- Identified key churn trends and built an interactive Power BI dashboard to visualize the churn patterns in dimensions such as tenure, delivery distance, and complaint frequency, enabling stakeholders to make informed decisions.

HONORS AND AWARDS

Dean's list, University of Nebraska-Lincoln (Fall 2022, Spring 2026)
Scholarships: Global Laureate Scholarship (2022-2026), N Fund-Business Scholarship (2023-2024),
Thayer Endowed Scholarship (2023-2024)