S. Yousef Oleyaeimotlagh

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SUMMARY

Data Scientist with a Ph.D. in Industrial Engineering from the University of Pittsburgh, skilled in data analytics, statistical modeling, and optimization. Experienced in developing predictive models and data-driven decision systems for complex, real-world problems, and in translating large-scale data into actionable insights using advanced statistical and machine learning methods.

EDUCATION

University of Pittsburgh, Pittsburgh, PA, USA Oct 2025
Ph.D., Industrial Engineering
Dissertation: "Optimal Sequential Decision-Making for Statistically Periodic Processes with Applications to Bio-Signal Processing"

Iran University of Science & Technology, Tehran, Iran Feb 2013
Master of Science in Industrial Engineering

Urmia University, Urmia, Iran Aug 2010
Bachelor of Science in Applied Mathematics

SKILLS

Programming & Frameworks: Python, Scikit-learn, TensorFlow, PyTorch, NumPy, pandas, SciPy, SQL, Jupyter, R

Data Science & Modeling: Predictive Analytics, Forecasting, Classification & Regression, Statistical Inference, Multivariate Analysis, Hypothesis Testing, Sampling, Drift Analysis, Simulation, A/B Testing

Machine Learning & AI: Model Development, Validation, Benchmarking, Productionization, and Life-cycle Monitoring; Feature Engineering, Hyperparameter Tuning, Model Drift Evaluation

Big Data & Cloud: AWS, Azure, GCP, Docker, Kubernetes, Spark, Hadoop, Microservices Architecture

Visualization & Reporting: Tableau, Power BI, Matplotlib, Seaborn, Data Storytelling, Dashboarding

Optimization & OR Tools: Gurobi, Linear/Nonlinear Programming, Dynamic Programming, Reinforcement Learning

Other Tools: Git, Linux, LaTeX

RELEVANT EXPERIENCE

University of Pittsburgh, Pittsburgh, PA Aug 2022 – Present
Graduate Research & Teaching Assistant, Swanson School of Engineering

- Designed, implemented, and validated predictive models and sequential decision-making algorithms for large-scale stochastic systems using Python and Scikit-learn.
- Developed scalable data pipelines for time-series analysis and forecasting using pandas, NumPy, and SQL.
- Benchmarked and deployed machine learning models on cloud-based environments with Docker and Kubernetes.
- Conducted statistical data analysis and hypothesis testing to improve model performance and robustness.
- Taught courses in Probability, Stochastic Modeling, and Statistical Analysis to engineering students.

University of Texas at San Antonio, San Antonio, TX Dec 2020 – Aug 2022
Graduate Research Assistant

- Built and productionized deep learning models (CNN, LSTM) with TensorFlow for ECG-based anomaly detection, achieving 85% accuracy.
- Conducted model validation, drift monitoring, and feature importance analysis to maintain lifecycle performance.
- Collaborated with multi-disciplinary teams to translate experimental results into deployable analytical pipelines.

University of Central Florida, Orlando, FL Sep 2016 – Jan 2020
Graduate Research & Teaching Assistant

- Developed spatial-temporal forecasting models for real-world traffic and environmental data using PyTorch and Spark.
- Led data preprocessing, sampling, and visualization of large heterogeneous datasets to improve predictive accuracy.

Soft Film Novin Azerbaijan, Tabriz, Iran Apr 2013 – Sep 2013
Sales Intern

- Performed exploratory data analysis on SQL-based datasets for inventory optimization and sales forecasting.

RESEARCH EXPERIENCE

Data Incubator Challenge May 2019

- Ranked in the top 2% nationally for a predictive analytics project identifying socioeconomic factors driving homelessness using Python and regression modeling.

AWS Cloud Student Ambassador 2019 – 2020
Amazon

- Delivered workshops on AWS machine learning and data analytics services, emphasizing scalable cloud-based solutions.

Member, Young Researchers and Elites Club 2012 – 2015
North Tehran Branch, Islamic Azad University (IAU)

- Conducted applied research on data modeling and optimization for industrial and operational systems.

RELEVANT COURSES

- Machine Learning & Data Mining
- Deep Learning & Neural Networks
- Stochastic Processes
- Optimal Control

CONFERENCES

INFORMS Annual Meeting, Atlanta, GA Oct 2025

Canberra Artificial Intelligence Summer School Dec 2020

ICSTT, Orlando, FL May 2019

PUBLICATIONS

- Y. Oleyaeimotlagh and T. Banerjee, "Modified Wald formulation for sequential binary hypothesis testing in statistically periodic processes," *Sequential Analysis*, Accepted, 2025.
- Y. Hou, Y. Oleyaeimotlagh, R. Mishra, H. Bidkhori, and T. Banerjee, "Robust quickest change detection in nonstationary processes," *Sequential Analysis*, vol. 43, no. 3, pp. 275–300, 2024.
- Y. Oleyaeimotlagh, T. Banerjee, A. Taha, and E. John, "Quickest change detection in statistically periodic processes with unknown post-change distribution," *Sequential Analysis*, vol. 42, no. 4, pp. 404–437, 2023.
- A. E. Vela and Y. Oleyaeimotlagh, "Ground Level Aviation Noise Prediction: A Sequence to Sequence Modeling Approach Using LSTM Recurrent Neural Networks," in *Proc. 2020 AIAA/IEEE 39th Digital Avionics Systems Conference (DASC)*, San Antonio, TX, USA, Oct. 2020, pp. 784–789.