Mohamed Milad, Ph.D.
Associate Professor of Statistics
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Professional Summary

An experienced statistician and educator with a strong background in data analysis, statistical modeling, and machine learning. Proficient in Python, R, and SAS, with expertise in analyzing high-dimensional biological and genetic data. Skilled in applying supervised and unsupervised machine learning methods, developing statistical models, and conducting advanced data visualization. Seeking to leverage over seven years of academic and research experience in a data science role.

Technical Skills

- - Programming Languages: Python, R, SAS
- - Statistical Analysis: Regression Analysis, Generalized Linear Models, Principal Component Analysis, Clustering, Time Series Analysis
- - Machine Learning: Supervised and Unsupervised Learning, Logistic Regression, Support Vector Machines, Functional Principal Component Analysis
- - Data Science Tools: SPSS, SQL, Jupyter Notebooks
- - Data Visualization: ggplot2 (R), Matplotlib, Seaborn (Python)
- - Big Data Techniques: Epigenetic Data Analysis, High-Dimensional Data, Next-Generation Sequencing (NGS) Data

Education

- - Ph.D. in Statistics (Biostatistics)

Missouri University of Science and Technology, May 2017

- - M.S. in Applied Mathematics

Missouri University of Science and Technology, Jan 2013

- - B.S. in Statistics

Garyounis University, May 2000

Professional Experience

Arkansas State University, AR
Associate Professor, Department of Mathematics & Statistics
May 2023 – Present
- Conducted data-driven research, focusing on statistical methods for genomic data analysis, including DNA methylation studies.
- Developed and taught courses on Statistical Machine Learning, Regression Analysis, and Applied Data Science techniques.

Assistant Professor
2018 – 2023
- Led projects in statistical modeling and machine learning for large datasets, applying predictive analytics to biological and clinical datasets.
- Guided students on projects involving hypothesis testing, data visualization, and predictive modeling in R and SAS.

Missouri University of Science and Technology
Research and Teaching Assistant, Department of Mathematics & Statistics
2013 – 2017
- Conducted research on functional principal component analysis for epigenetic data, building machine learning models to analyze DNA methylation patterns.

Reynolds American Inc., NC, USA
Research and Development Intern
June – August 2016
- Collaborated with data science team on predictive modeling for product development, analyzing large datasets to improve product quality.

Research & Projects
- - Differentially Methylated Regions Analysis: Developed statistical models for identifying methylation regions in DNA using logistic regression and wavelet principal component analysis.
- - Time Series Forecasting on Agricultural Data: Implemented functional autoregressive models in R to forecast trends and patterns in agricultural datasets.
- - Machine Learning Applications in Genomic Data: Applied clustering and classification algorithms to segment high-dimensional genomic data, contributing to research on chronic diseases.

Selected Publications
- - Milad, M., & Olbricht, G. R. Testing differentially methylated regions through functional principal component analysis. Journal of Applied Statistics (Accepted).

- - Mohan, M., & Milad, M. Bone remineralization of lytic lesions in multiple myeloma - The Arkansas experience. Bone Journal, Volume 146, May 2021.

Professional Certifications

- - Supervised & Unsupervised Methods for Statistical Machine Learning (University of Washington, Seattle, 2015)
- - Big Data Summer Institute in Statistics (University of Washington, Seattle, 2015)

Awards & Honors

- - Teaching Excellence Award, Missouri University of Science & Technology, Rolla, MO (2013-2015)
- - Professional Development Award, Arkansas State University

Professional Affiliations

- - American Statistical Association (ASA)
- - East North American Region (ENAR) of the International Biometric Society