





Alireza Ghorbani

Curriculum Vitae

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Education

- 2024–2026 **M.Sc. in Epidemiology**,  Ludwig-Maximilian University, Munich, Germany.
(Expected) "No transcript available yet."
- 2014–2016 **M.Sc. in Mathematical Statistics**,  Shahid Beheshti University, Tehran, Iran.
○ Thesis: Analysis of High Dimensional Data Using Rayleigh Quotient Optimization (in Persian) under supervision of Prof. Faridrohani & prof. Hamedani
- 2009–2014 **B.Sc. in Statistics**,  Shahid Chamran University, Ahwaz, Iran.
○ Thesis: Statistical Study for The Factors Contributing to The Academic Failure among A Group of Undergraduate Students (in Persian) under supervision of Prof. Zadkarami
- 2006–2008 **High School & Pre-University Diploma in Mathematics and Physics**,  Shahid Beheshti High School, Birjand, Iran
Affiliated with the National Organization for Development of Talented Students (NODET)

Publication

- 2024+ **Enhanced Multi-Criteria Decision Making using Generalized Linear Models and Augmented Feature Space (Case study: Water Pipeline Routing)**, [Under Review](#)
- 2024+ **Optimizing Water Pipeline Route Selection Using a Sparse Deep Neural Network and the Fuzzy VIKOR Method (case study: water pipeline transmission)**, [Under Review](#)
- 2024 **A Novel Prescriptive Supply Chain Analytics Model for Monitoring the Relationship Between Influential Variables Across the Supply Chain Network**, [DOI](#)

Teaching and Professional Experience

- 2021 - 2024 **Consumer Research Quantitative Researcher**, R&D Department,  Zarrin Roya, Tehran, Iran.
I support the R&D department's ambitions in data analytics, predictive modeling, and data quality improvements.
- 2022 – 2023 **Statistics & Machine Learning Instructor**,  Learnix.ir, Tehran, Iran.
I taught online courses on statistics, machine learning, and R programming language in Persian at learnix.ir, using interactive videos, quizzes, exercises, and projects to engage and assess learners.











Honors and Awards

- 2014 **Ranked 9th**, in the 19th National Scientific Olympiad (Statistics)
- 2014 **Ranked 19th**, in the National Entrance Exam for Masters of Science in Actuarial Statistics, Social & Economic Statistics and Theoretical Statistics
- 2003 & 2005 Selected for study in schools of the National Organization for Development of Exceptional Talents (NODET) through an exam with less than 1% acceptance rate.

Research Interests

- Statistical Learning
- Genetic Epidemiology
- High Dimensional Statistics
- Bayesian Statistics


Extracurricular Activities & Professional Certificates


- Bayesian Statistics Specialization
 University of California, Santa Cruz
- Machine Learning Specialization
 Stanford University &  deeplearning.ai
- Natural Language Processing Specialization
 deeplearning.ai
- Statistics with Python Specialization
 University of Michigan
- TensorFlow Developer Professional Certificate
 deeplearning.ai
- Practical Time Series Analysis
 The State University of New York
- Deep Learning Specialization
 deeplearning.ai
- Fundamentals of Reinforcement Learning
 University of Alberta
- Python 3 programming Specialization
 University of Michigan


Technical skills



 R Programming,  Python,  Matlab, \LaTeX ,  Open BUGS

Research Experience & Selected Projects

Comparison of Sentiment Analysis Methods for Farsi Text, Developing models (Logistic lasso Regression, Naive Bayes, Vector Space Model and LSTM) for sentiment analysis and text classification of Farsi text in , and comparing their performances. The best method selected for tracking customers' behavior over social media.

Recommender System Suggesting Proper Product Size, Developing a recommending system to help mothers find proper diaper size in . Selecting proper diaper size could be a challenge for young mothers that could lead to a significant amount of dissatisfaction.

Water Pipeline Optimization using Multi-Task Sparse Neural Network Integrated with MCDM, The costly intervention of five groups of experts that their idea regarding water pipeline was necessary for evaluation and determination of the best water pipeline was replaced by a multi-task neural network model. Finally, some newly proposed pipeline alternatives were qualified by the model and ranked by FVIKOR (developed in ).

High Dimensional Classification using Rayleigh Quotient, *I have studied classification methodologies and the challenges for their implementation facing high-dimensional data. Then, I have provided numerical results (by simulation and by an actual breast cancer dataset) comparing these methods. This project was a part of my master's degree thesis and was done in  and .*

Languages

- English: Fluent
- German: Elementary