

# Mohammad Kazemi



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**WWW** Researchgate, Google Scholar, ORCiD, LinkedIn

## Education

- 2014-2019** Ph.D. in Statistics - Shahrood University of Technology, Shahrood, Iran  
*Thesis:* Variable Selection and Structure Identification in Semiparametric Models  
*Supervisors:* Davood Shahsavani and Mohammad Arashi
- 2009-2012** M.Sc. in Mathematical Statistics - University of Mazandaran, Babolsar, Iran  
*Thesis:* Inference for Weibull Distribution under Hybrid Censoring  
*Supervisor:* Akbar Asgharzadeh  
*Advisor:* Bahram Sadeghpour Gildeh

## Visiting Positions

- 2018-2019** Sabbatical Visit in Statistics - CAST-Centre for Applied Statistics and Data Analytics,  
Tampere University, Tampere, Finland  
*Project:* Robust Singular Spectrum Analysis  
*Supervisor:* Paulo Canas Rodrigues

## Research Interests

High-Dimensinal Data Analysis, Penalized Regression, Statistical Machine Learning, Data Mining, Robust Statistics, Singular Spectrum Analysis, Censored Data Analysis

## Journal Papers

- [1] V. Goodarzi, D. Shahsavani and M. Kazemi (2025). A Robust Partial Linear Model Combining Modified Huber Loss Function with Variable Selection, *Statistical Papers*, 66, 124, DOI
- [2] M. Kazemi, H. Mohammadi Peyhani, M. Akbari (2025). A novel leading moving average indicator using ANFIS-Wavelet hybrid method for financial market forecasting, *Journal of Mathematical Modeling*, 13(4), 775-788. DOI
- [3] M. Fallahnejad, V. Rezaeitabar, M. Kazemi (2025). A generalized K2 algorithm for learning Bayesian network structures using ridge regression, *Lobachevskii Journal of Mathematics*, 46(4), 1567-1579. DOI
- [4] M. Kazemi (2024). Group Descent Algorithm in Penalized Nonparametric Additive Model, *Journal of Operational Research in its Applications*, 21(4), 1-14

- [5] M. Kazemi (2024). A Robust Variable Screening Approach with Application to Gene Expression Data, *REVSTAT-Statistical Journal*, DOI.
- [6] M. Kazemi (2024). Support Vector Machine in Ultrahigh Dimensional Feature Space, *Journal of Statistical Computation and Simulation*, 94 (3), 517–535, DOI.
- [7] M. Kazemi (2023). A Comparative Study of Singular Spectrum Analysis, Neural Network, ARIMA and Exponential Smoothing for monthly Rainfall Forecasting, *Journal of Mathematical Modeling*, 11(4), 783–803, DOI
- [8] M. Kazemi and P. C. Rodrigues (2023). Robust singular spectrum analysis: Comparison between classical and robust approaches for model fit and forecasting, *Computational Statistics*, DOI
- [9] M. Kazemi and M. Azizpour (2021). Estimation for inverse Weibull distribution parameters under type-I hybrid censoring. *Austrian Journal of Statistics*, 50, 38-51, DOI.
- [10] M. Kazemi, D. Shahsavani, M. Arashi and P. C. Rodrigues (2021). Identification for partially linear regression models with autoregressive errors, *Journal of Statistical Computation and Simulation*, Published online, 97(1), 1441-1454, DOI.
- [11] M. Kazemi, D. Shahsavani, M. Arashi and P. C. Rodrigues (2021). Estimation in partial linear model with spline modal function, *Communications in Statistics - Simulation and Computation*, 50(11), 3256-3272, DOI.
- [12] M. Kazemi (2020). Partial correlation screening for varying coefficient models, *Journal of Mathematical Modeling*, 8(4), 363-376, DOI.
- [13] P. C. Rodrigues, J. Pimentel, P. Messala and M. Kazemi (2020). Decomposition and forecasting of mutual investment funds using singular spectral analysis, *Entropy*, 22(1), 83, DOI.
- [14] M. Kazemi, D. Shahsavani and M. Arashi (2019). A sure independence screening procedure for ultra-high dimensional partially linear additive models, *Journal of Applied Statistics*, 46(8), 1385-1403.
- [15] M. Kazemi, D. Shahsavani and M. Arashi (2018). Variable selection and structure identification for ultrahigh-dimensional partially linear additive models with application to cardiomyopathy microarray data, *Statistics, Optimization and Information Computing*, DOI.
- [16] M. Kazemi, D. Shahsavani and M. Arashi (2018). Variable selection and structure identification in high dimension for partial linear additive models (in Farsi), *Journal of Statistical Sciences*, 12(2), 485-512.
- [17] A. Asgharzadeh, M. Kazemi and D. Kundu (2017). Estimation of  $P(X > Y)$  for Weibull distribution based on hybrid censored samples, *International Journal of Systems Assurance Engineering and Management*, 8(Suppl 1): 489. DOI.
- [18] M. Kazemi and M. Fallahnejad (2014). Inference on stress-strength reliability of power distribution, *Scientific Journal of Pure and Applied Sciences* DOI.
- [19] A. Asgharzadeh, M. Kazemi and C. Kus (2013). Analysis of the Hybrid Censored Data from the Logistic Distribution, *Journal of Probability and Statistical Science* 11(2), 183-198.

## Conference Papers

- [20] V. Goudarzi, D. Shahsavani and M. Kazemi (2024). Robust penalized estimation using modified Huber loss function for semiparametric regression model, *17th Iranian Statistical Conference*, Aug 2024, University of Birjand, Birjand, Iran.
- [21] M. Kazemi (2024). Penalized regression for modeling high-dimensional data with group structure, *5<sup>th</sup> International Conference on Soft Computing (CSC2024)*, 6-7 March 2024, University of Guilan, Iran.
- [22] S. A. H. Tabatabaei, K. Rezaee, M. Kazemi (2024). Death Rate (per million) of Confirmed Patients Infected by COVID-19 in the Pandemic Period: A Continental Comparison, *5<sup>th</sup> International Conference on Soft Computing (CSC2024)*, 6-7 March 2024, University of Guilan, Iran.

- [23] M. Kazemi and A.H. Tabatabaei (2023). A simulation study on high-dimensional multivariate response regression, *The 14th Seminar on Probability and Stochastic Processes*, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran.
- [24] B. Moradi, D. Shahsavani and M. Kazemi (2023). Screening and Selection of Interaction effects, *The 14th Seminar on Probability and Stochastic Processes*, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran.
- [25] M. Kazemi (2022). Ultra-high dimensionality: a challenge in variable selection and classification problems, *16th Iranian Statistical Conference*, 24-26 Aug 2022, University of Mazandaran, Babolsar, Iran.
- [26] M. Kazemi (2021). Robust Analysis of Time Series, *4th International Conference on Soft Computing*, 29 & 30 Dec 2021, University of Guilan, Faculty of Engineering and Technology East of Guilan, Iran.
- [27] M. Kazemi (2021). Data Dimensionality Reduction using Screening, *4th International Conference on Soft Computing*, 29 & 30 Dec 2021, University of Guilan, Faculty of Engineering and Technology East of Guilan, Iran.
- [28] M. Kazemi (2019). Feature Selection for Ultrahigh Dimensional Varying Coefficient Models, *3rd International Conference on Soft Computing*, University of Guilan, 20 & 21 NOV 2019, University of Guilan, Faculty of Engineering and Technology East of Guilan, Iran.
- [29] M. Kazemi, D. Shahsavani and M. Arashi (2017). Group LASSO for high-dimensional partially linear errors-in variables models, *Second National & First International Conference on Soft Computing*, 22& 23 Nov 2017, University of Guilan, Faculty of Engineering and Technology East of Guilan, Iran.
- [30] M. Kazemi, D. Shahsavani and M. Arashi (2017). Feature screening in big data using distance correlation (In Farsi), *Modern Methods in Insurance Pricing and Industrial Statistics*, 3-5 September, 2017, Bu Ali Sina University, Hamedan, Iran.
- [31] M. Kazemi, M. Arashi and D. Shahsavani (2017). Gene identification using independence screening procedure, *The 11th Seminar on Probability and Stochastic Processes*, Aug 2017, Imam Khomeini international university, Qazvin, Iran.
- [32] M. Kazemi, D. Shahsavani and M. Arashi (2017). Solution of optimization problem for variable selection in high-dimensional data, *The 10th International Conference of Iranian Operations Research Society*, 3-5 May 2017, University of Mazandaran, Babolsar, Iran.
- [33] M. Kazemi (2016). On progressively type II hybrid censored generalized inverted exponential distribution, *13th Iranian Statistical Conference*, 24-26 Aug 2016, Shahid Bahonar University of Kerman, Kerman, Iran.
- [34] M. Kazemi and A. Asgharzadeh (2014). Stress-strength reliability of exponential distribution based on hybrid censored samples, *The 12th Iranian Statistical Conference*, 25-27 August, 2014, Razi University, Kermanshah, Iran.
- [35] B. Saracoğlu, A. Asgharzadeh, M. Kazemi, İ. Kinaci and N. Akdam (2014), Statistical Inference for the Generalized Gompertz Distribution. *9th International Statistics Day Symposium ISDS 2014 (İGS 2014)*, 10-14 May, pp.83, 2014, Antalya, Turkey.
- [36] M. Kazemi and A. Etemadi (2014). Monte Carlo Integration and Importance Sampling (in Farsi), *The 2nd Regional conference on Mathematics And Applications*, 2 October 2014, Payame Noor university, Mazandaran, Tonekabon, Iran.

## In Submission

- [37] M. Fallahnejad, V. Rezaei Tabar, M. Kazemi (2025). Elastic Net - Based K2 Algorithm for Bayesian Network Structure Learning, *Statistics* (Revised).

## MSc Supervision

- Parnian Meypoush, *An algorithm for variable selection and interaction identification in high dimensional data*, Uinversity of Guilan (2023-2025)
- Fatemeh Pourmohammadi, *Generalizations of ridge regression for variable selection in multiple linear regression model*, Uinversity of Guilan (2023-2025)
- Negar Shahinfar, *Architecture reduction of a probabilistic neural network by merging k-means and k-nearest neighbor algorithms*, Uinversity of Guilan (2023-2025)
- Alireza Bolandkerdar, *Comparison of the performance of machine learning methods in genomic prediction: Penalized Regression, Ensemble Learning, and Deep Learning*, Uinversity of Guilan (2024-present)
- Negin Haghighi, *Variable selection in modelling clustered data using within-cluster resampling*, Uinversity of Guilan (2024-present)
- Masoomah Vahidi, *An elastic net-based supervised feature selection algorithm for high dimensional data*, Uinversity of Guilan (2024-present)
- Ali Esmattalab, *Modal regression using kernel density estimation*, Uinversity of Guilan (2023-present)
- Shaghayegh Kashfi, *An ensemble learning strategy for panel time series forecasting of excess mortality during the COVID-19 pandemic*, Uinversity of Guilan (2023-present)

## PhD Supervision

- Vahid Goudarzi, *Estimation and variable selection for robust semi-parametric regression models*, Shahrood University of Technology, 2022-present (Co-Supervision).
- Mehryar Fallahnejad, *A Generalization of the k2 algorithm for selecting candidate parents based on dependency criterion in penelized regression*, Allameh Tabataba'i University, 2023-present (Co-Supervision).
- Bahman Moradi, *Interaction Identification and Selection in Linear Models*, Shahrood University of Technology, 2022-present (Co-Supervision).

## Scientific Collaborations

- Collaborator and affiliate member of the Statistical Learning Laboratory (SaLLy), Federal University of Bahia, Salvador, Brazil
- Executive Editor of the *Journal of Mathematical Modeling*
- Refereeing Service
  - Refereed articles for some journals
    - \* Data Science in Science
    - \* IEEE Access
    - \* Computational Statistics
    - \* Computational and Mathematical Methods
    - \* Plos One
    - \* Communications in Statistics – Theory and Methods
    - \* Communications in Statistics - Simulation and Computation
    - \* Complexity
    - \* Advances in Mathematical Physics
    - \* Journal of Mathematics
    - \* Mathematical Problems in Engineering

- \* Brazilian Journal of Probability and Statistics
- \* Journal of Statistical Modelling: Theory and Applications
- \* Hacettepe Journal of Mathematics and Statistics
- \* Statistics, Optimization & Information Computing
- \* Pakistan Journal of Statistics and Operation Research
- \* Songklanakarin Journal of Science and Technology
- \* Journal of Statistical Sciences (In Farsi)
- Refereed articles for conferences
  - \* 1<sup>st</sup> National Conference on Soft Computing, Nov 2015, University of Guilan, Iran
  - \* 3<sup>rd</sup> International Conference on Soft Computing, Nov 2019, University of Guilan, Iran
  - \* 4<sup>th</sup> International Conference on Soft Computing, Dec 2021, University of Guilan, Iran

## Teaching Experiences

- University of Guilan, Rasht, Iran (2019-present)
  - Advanced Data Mining (Graduate Course)
  - Statistical Infrence I (Graduate Course)
  - Statistical Learning (Graduate Course)
  - Special Topics in Applied Statistics (Graduate Course)
  - Data Mining
  - Statistical Computing with R
  - Graphical and Exploratory Data Analysis
  - Multivariate Statistical Methods I & II
  - Probability I & II
  - Statistical Methods
  - Nonparametric Statistics
  - Regression I & II
  - Mathematical Statistics
  - Design of Experiments
  - Data Visualization
  - Introduction to Statistics and Probability
  - Bayesian Statistics
  - Biostatistics
  - Topics in Applied Statistics
  - Fundamentals of Probability
  - Statistics and Probability for Engineers
  - Statistics and Probability with Applications in Management
- Tampere University, Tampere, Finland (TA)- Summer School 2018
  - Introduction to Statistics
  - Introduction to R
- Shahrood University of Tecnology, Shahrood, Iran (2015-2017)
  - Statistics and Probability with Applications in Management
  - Basic Mathematics

- Payame Noor University of Guilan, Iran (2012-2014)
  - Inferential Statistics
  - Applied Statistics and Probability
  - Statistics and Probability for Engineers
- Deylaman Institute of Higher Education, Lahijan, Iran (2012-2014)
  - Statistical Methods

## Teaching in Workshops

- *Data Vizualization with ggplot2*, 5<sup>th</sup> International Conference on Soft Computing, University of Guilan, Rasht, Iran, 6 March 2024.
- *Data Vizualization with R*, Faculty of Mathematical Sciences, University of Guilan, Rasht, Iran, Dec 2023
- *Regression Analysis with R*, Faculty of Mathematical Sciences, University of Guilan, Rasht, Iran, Nov 2022
- *Introduction to R*, CAST-Centre for Applied Statistics and Data Analytics, Tampere University, Finland, Aug 2018
- *A review of statistical topics in high school math textbooks* (3 Sessions), Ministry of Education, Rasht, Iran, Jan & Feb 2021

## Workshop Attendance

- *An introduction to clustering as an unsupervised machine learning approach*, University of Mazandaran (Prof. Mohammad Jafari Jozani), Aug 23, 2022
- *Visualization of spatial data on static and dynamic geographic maps using R*, Data Science Lab of Ferdowsi University of Mashhad, Mashhad, Iran, 5 Aug, 2021
- *Data Visualization with R*, Data Science Lab of Ferdowsi University of Mashhad, Mashhad, Iran, 6 July, 2021
- *Data Science and applications with Python*, Allameh Tabataba'i University, Tehran, Iran, 14-15 April, 2021
- *A Short Course in Machine Learning*, with a duration of 21 hours, Alzahra University, Tehran, Iran, February 16 - March 5, 2021.
- *Virtual Data Science Summer School*, with a duration of 28 hours, Ferdowsi University of Mashhad, Mashhad, Iran, July 30 -August 8, 2020.
- *Introduction to Machine Learning with Industrial Applications*, Workshop in Modern Methods in Insurance Pricing and Industrial Statistics conference (Instructor: Ali Shojaie, Prof. at University of Washington, USA), Bu-Ali Sina University, Hamedan, Iran, 2<sup>th</sup> September 2017.
- *Risk Management with Big Data and Applications in Industry*, Workshop in Modern Methods in Insurance Pricing and Industrial Statistics conference (Instructor: David Rios Insua, Prof. at Spanish Royal Academy of Sciences), Bu-Ali Sina University, Hamedan, Iran, 4<sup>th</sup> September 2017.
- *Bayesian Computation using WinBugs*, Shahrood University of Tecnology, Iran (Instructor: Mojtaba Ganjali, Prof. at Shahid Beheshti University, Iran), 1<sup>st</sup> November 2016.
- 6<sup>th</sup> *Seminar on Fuzzy Statistics and Probability*, Shahrood University of Tecnology, Iran, 18-19 May 2016.

## Talk & Presentations

- *Penalized Regression: A Supervised Statistical Learning Approach for the High-dimensional Data Modeling*, University of Guilan, Rasht, Iran, Nov 2022
- *Variable Selection Approaches in High Dimensional Data*, Iranian Statistical Society, February 2022
- *Dimensionality Reduction for High Dimensional Data*, CAST-Center for Applied Statistics and Data Analysis, Tampere University, Finland, July 2018
- *Estimation in Varying Coefficient Models*, Department of Statistics, Shahrood University of Technology, Shahrood, Iran, December 2018
- *Variable Selection in High Dimensional Nonparametric Additive Models*, Weekly Seminar at Department of Statistics, Shahrood University of Technology, Shahrood, Iran, April 2017
- *Sensitivity Analysis of Computer Models*, Weekly Seminar at Department of Statistics, Shahrood University of Technology, Shahrood, Iran, May 2016

## Computer Skills

- **Statistical and Mathematics Programming**  
R(*Expert*), Python, and some experience with SAS & Maple
- **Statistical Software Abilities**  
SPSS, Minitab
- **Others**  
L<sup>A</sup>T<sub>E</sub>X, Xepersian, MS Office (Word, Excel, PowerPoint)

## Honors and Awards

- **Visiting Research Award**, Ministry of science, research and technology of Iran, 2018-2019
- **Achievement during the Ph.D. Studies**, Distinguished student of faculty of mathematical sciences, 2015
- **Achievement during the Bachelor of Science Studies**, Ranked “first” among the fourth year undergraduate students in department of statistics, 2009

## Professional Memberships

- Bernoulli Society
- Iranian Statistical Society