

Curriculum vitae

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Ph.D. in Statistics
Associate Professor,
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University Education:

1986-1991 B.Sc. Mathematical Statistics, Ferdowsi Univ. of Mashhad,
Mashhad, Iran

1991-1994 M.Sc. Mathematical Statistics, Ferdowsi Univ. of Mashhad,
Mashhad, Iran

2003-2008 Ph.D. Statistics, Linköping Univ., Linköping , Sweden
(Under supervision of Prof. Anders Grimvall)

Employments:

1994-2003 Lecturer, Shahrood university of technology. Shahrood, Iran

2003-2008 Educational leave

2008- 2016 Assistant Prof., Shahrood university of technology, Shahrood, Iran

2016-present Associate Prof., Shahrood university of technology, Shahrood, Iran

Academic Positions

Head of central library, Shahrood University of Technology, 2013-2019

Teaching experiences:

Course name	Level
Statistics and Probability 1 & 2	B.Sc. - Mathematics
Time Series Analysis	“
Random Processes	“
Programming (Pascal and C)	“
Calculus 1	“
Differential Equations	“
Regression Analysis	B.Sc. - Statistics
Design and Analysis of Experiments	“
Time Series Analysis	“
Mathematical Statistics	“
Statistical Methods	“
Statistics 1 & 2	B.Sc. - Management & Agriculture
Engineering Statistics	B.Sc. - Civil & Mining Eng.
Engineering Statistics	B.Sc. - Electrical Eng.
Statistical Learning	M.Sc. and Ph.D - Statistics
Reliability	M.Sc. – Mechanical engineering

Professional Services:

Member of the Scientific and Executive Committee, 14th Iranian Statistics Conference, Shahrood University of Technology, Iran, August 2018. •

Executive director of the 2nd Seminar on Spatial Statistics and Its Applications, Shahrood University of Technology, Iran, October 2017

List of the research activities:

Journal papers

- 1) S. E. Hosseini, **D. Shahsavani**, M. R. Rabiei, M. Arashi (2024) Small area estimation with partially linear mixed-t model with measurement error . *Journal of Computational and Applied Mathematics*, 446 (15). Article No. 115871
- 2) S. E. Hosseini, **D. Shahsavani**, M. R. Rabiei, M. Arashi, H. Baghishani (2022). Small Area Estimation Using a Semiparametric Spatial Model with Application in Insurance. *Symmetry*, 14, 1-13.
- 3) R. Lotfi, **D. Shahsavani** , M. Arashi (2022) Classification in High Dimension Using the Ledoit–Wolf Shrinkage Method. *Mzthematics*, 10 (21).
- 4) M. Kazemi, **D. Shahsavani**, M. Arashi, P.C. Rodrigues (2021). Identification for partially linear regression model with autoregressive errors. *Journal of Statistical Computation and Simulation*, 91(7), 1441-1454.

- 5) M. Kazemi, **D. Shahsavani**, M. Arashi, PC. Rodrigues (2021). Estimation in partial linear model with spline modal function, *Communications in Statistics-Simulation and Computation*, 50 (11), 3256-3272.
- 6) M. Beglari, N. Goudarzi, **D. Shahsavani**, M. Arab Chamjangali, Rahele Dousti (2020). QSAR modeling of anti-HIV activity for DAPY-like derivatives using the mixture of ligand-receptor binding information and functional group features as a new class of descriptors, *Network Modeling Analysis in Health Informatics and Bioinformatics*, 9, 59.
- 7) M. Beglari, N. Goudarzi, **D. Shahsavani**, M. Arab Chamjangali, Z. Mozafari (2020). LM-ANN-based QSAR model for the prediction of pEC₅₀ for a set of potent NNRTI using the mixture of ligand-receptor interaction information and drug-like indexes, *Network Modeling Analysis in Health Informatics and Bioinformatics*, 9, 53.
- 8) M. Beglari, N. Goudarzi, **D. Shahsavani**, M. Arab Chamjangali, Z. Mozafari (2020). Combination of radial distribution functions as structural descriptors with ligand-receptor interaction information in the QSAR study of some 4-anilinoquinazoline derivatives as potent EGFR inhibitors. *Structural Chemistry*, 31, 1481–1491.
- 9) M. Kazemi, **D. Shahsavani**, M. Arashi (2018). A sure independence screening procedure for ultra-high dimensional partially linear additive models. *Journal of Applied Statistics*, 46 (8), 1385-1403
- 10) M. Kazemi, **D. Shahsavani**, M. Arashi (2018). Variable Selection and Structure Identification in High Dimension for Partial Linear Additive Models. *Journal of statistical science*, 12(2), 485-512
- 11) M. Kazemi, **D. Shahsavani**, 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 (SOIC)*, 6,373-382
- 12) N. Goudarzi, **D. Shahsavani**, F. Emadi, M. Arab chamjangali (2016). Quantitative structure-property relationships of retention indices of some sulfur organic compounds using random forest technique as a variable selection and modeling method. *Journal of separation sciences*, 39(19), 3835-3842.
- 13) E. Es'haghi, H. Baghishani, **D. Shahsavani** (2016). Time-varying coefficients models for recurrent event data when different varying coefficients admit different degrees of smoothness: application to heart disease modeling. *Statistics in Medicine*. 35 (23), 4073-4280.
- 14) S. Emamgholi, S. Bateni, **D. Shahsavani**, T. Ashrafi, H. Ghorbani (2015). Estimation of soil cation exchange capacity using Genetic Expression Programming (GEP) and Multivariate Adaptive Regression Splines (MARS). *Journal of Hydrology*, 529, 1590-1600.

- 15) H. Taheri, **D. Shahsavani**, S.Sargazi, M. Habibi (2015). Evaluation of MARS for the spatial distribution modeling of carbon monoxide in urban area. *Atmospheric pollution Research* 6, 581- 588.
- 16) N. Goudarzi, **D. Shahsavani**, F. Emadi, M. Arab (2014). Application of random forests to predict the retention indices of some polycyclic aromatic hydrocarbons. *Journal of Chromatography A*, 1333, 25–31
- 17) E. Esaghi, H. Baghishani, **D. Shahsavani** (2014). Estimation of Semiparametric Survival Models with Time Varying Effects for Recurrent Event Data by Using Kernel Method. *Journal of statistical science* 7(1), 1-24.
- 18) N. Goudarzi, **D. Shahsavani** (2012). Application of a random forests (RF) method as a new approach for variable selection and modelling in a QSRR study to predict the relative retention time of some polybrominated diphenylethers (PBDEs). *Analytical Methods* 4, 3733-3738.
- 19) M. Gholipour, S. Emamgholizadeh, H. Hassanpour, **D. Shahsavani**, H. Shahoseinia, M. Baghib, A. Karimi (2012). The optimization of root nutrient content for increased sugar beet productivity using an artificial neural network. *International Journal of Plant Production* 6 (4), 429-442.
- 20) **Shahsavani, D.**, Taheri Shahraini, H. (2011). Introduction of MARS as a new method for modelling of spatial distribution of annual precipitation. *Engineering e-Transaction*, 6(2), 90 -98.
- 21) **Shahsavani, D.**, Grimvall, A. (2011). Variance-based sensitivity analysis of model outputs using surrogate models. *Environmental Modelling and Software* 26(6), 723-730.
- 22) **Shahsavani, D.** and Grimvall, A. (2009). An adaptive design and interpolation technique for extracting highly nonlinear response surfaces from deterministic models. *Reliability Engineering and System Safety* 94(7), 1173-1182.
- 23) **Shahsavani, D.** and Grimvall, A. (2008). Surrogate models composed of locally estimated neural networks. *Technical Report - LiU-IDA-STAT-02/08*, Linköping University, Linköping, Sweden (*Submitted in Computer Physics and Communication*).
- 24) **Shahsavani, D.** (1999). Probability and epidemiology. *Andisheye Amari* (2), 4th year.

International Conference papers

- 1) Davood Shahsavani, Hamid Taheri Shahrayni (2012). Machine learning methods for hyperspectral image classification and progress in the insurance and food production industries. *Oral presentation at the International Symposium on Business and Industrial Statistics (ISBIS 2012)*, Bangkok, Thailand, 17-21 June 2012.
- 2) Davood Shahsavani, Stefano Tarantola, Marco Ratto (2010). Evaluation of MARS modeling technique for sensitivity analysis of model output. *Procedia Social and Behavioral Sciences 2*, 7737-7738, Sixth International Conference on Sensitivity Analysis of Model Output (SAMO 2010). Milan, Italy.
- 3) Ghavami- Riabi, R., Shahsavani, D. (2009). Estimation of the gold concentration using MARS model in shear zone mineralization-SW of Saqqez, Iran. *Goldschmidt conference*, Davos, Switzerland, 21-26 June 2009.
- 4) Shahsavani, D, Grimvall, A. (2007). Extracting complex nonlinear response surfaces from deterministic models with multiple inputs, *Oral presentation at the Fifth International Conference on Sensitivity Analysis of Model Output (SAMO 2007)*, Budapest, Hungary, 18-22 June 2007.
- 5) Extracting complex nonlinear response surface from deterministic models with multiple inputs. *Poster presentation at the Annual Meeting of The International Environmetrics Society (TIES)*, Kalmar, Sweden, 18 – 22 June 2006.
- 6) Wahlin, K., Shahsavani, D., Grimvall, A. (2004). Reduced models of the retention of nitrogen in catchments, in: *Proceedings of the International Environmental Modelling and Software Society Conference (iEMSs)*, Osnabrück, Germany, 14-17 June, 2004.
- 7) Wahlin, K., Shahsavani, D., Grimvall, A. (2004). Extracting the essence of process-based models of the flow of nitrogen through catchments. *TIES 2004*, Portland, USA.
- 8) Shahsavani, D. (2004). Statistical methods for the reduction of complex process-based models of the flow of nitrogen through catchments, in: *Proceeding of the seventh Iranian statistics conference*, Tehran, Iran, 23 – 25 Aug, 2004.

- 9) Shahsavani, D. (2002). Random walk and electrical network, in: *Proceeding of the sixth Iranian statistics conference*, Tehran, Iran, 26 – 28 Aug, 2002.
- 10) Shahsavani, D. (2000). A test of normality based on entropy, in: *Proceeding of the fifth Iranian statistics conference*, Isfahan, Iran, 22 – 24 Aug, 2000.

Ph.D. supervision

- 1) Mirzaee, N. On Fuzzy regression methods, 2020 -present
- 2) Moradi, B. On variable selection methods, 2020- present
- 3) Goudarzi, V. On Robust Regression, 2018- present
- 4) Hosseini, S. E. On small area estimation, 2017- present
- 5) Dehnavi, H. *On Functional linear regression*, 2017- present
- 6) Lotfi, R. *Improving Data Classification by Using Shrinkage Estimators*, 2016-present.
- 7) Beglari, M. *"The application of new molecular descriptors in the development of QSAR models for some drug like compounds*. Shahrood University of Technology, 2016-2020 (co- supervision)
- 8) Kazemi, M. *Variable Selection and Structure Identification for Semiparametric Models*, Shahrood University of Technology, 2015-2019.

MSc supervision

- 1) Meisami Pour, Shabnam, *Survey and evaluation of thermal comfort in office buildings (case study: IT center building at Shahrood University of Technology)*", 2018-2019 (advisor).
- 2) Alibeiki, Pedram, *Evaluation of Thermal Comfort in Educational buildings (case study : Faculty of Architectural and Urbanism in Shahrood University of Technology)*, 2018-2019 (advisor).
- 3) Salamati, Elahe. , *Application of Chemometrics methods to Predict the Retention index of some organic Compounds*, 2017-2018
- 4) Maleki, Sima, *Regression Analysis of Proportion Data Using the Simplex Distribution*, 2017-2018
- 5) Alibeygi, Mayam. *Improved random Forests for categorical response variables*, 2017- 2018
- 6) Mohebbi, Mahboubeh (2017), *Selection of variables in big data by nonlinear modeling*, 2016-2017

- 7) Salimi Sani, Zinat, *Dimension Reduction in Clustering by Gorup-Lasso Penalty Function*, 2016-2017
- 8) Rahimiyan, Elham,. *On a robust Fuzzy regression*, 2017-2018
- 9) Mohammadi, Saeed. *Recognition of effective interactions for high dimensional data*, 2015
- 10) Hashemi, Amir. *Change Point detection in variance of multivariate processes by using a two stage hybrid scheme*, 2015
- 11) Farhadi, Zohreh. *Clustering by using the Classification Method of Random Forests*, 2014.
- 12) Norrmohammad Zadeh, Fatemeh. *Sensitivity analysis of model output by using Bayesian surrogate models*, 2013.
- 13) Moghaddam, Maryam. *Spatial outlier detection*, 2013.
- 14) Emadi, Fereshteh. *Application of Random Forests for variable selection and modelling of QSRP*, 2013.
- 15) Eshaghi, Ehsan. *Survival Semi-Parametric Models for Recurrent Event Data by using Kernel Method*, 2013.
- 16) Hemmati Rad, O. Kolsom. *Change Point Detection in Time Series Data* 2011.
- 17) Afshari, Masoud. *Application of Machine Learning Method for Extracting Water Qualitative Parameters from Hyperspectral data*, 2012.
- 18) Mahdavi, S. Alireza. *Churn Management by Using Advanced Statistical and Data Mining Methods*, 2011.
- 19) Safari, Faezeh. *Comparison Between Machine Learning Method and Traditional Methods for Classification of Satellite Images*, 2012.
- 20) Valizadeh, Toktam. *Adaptive and non-Adaptive Splines in Semi-Parametric Regression Models*, 2012.
- 21) Rezaee, Sajjad. *Fraud Detection by Using Data Mining Methods*, 2012.
- 22) Janfada, Mohammad. *Variance-based Sensitivity Analysis of Deterministic Computer Models*, 2011.
- 23) Parsaee Tabar, Zahra. *The Solution of Ordinary Differential Equation by using B-Spline*, 2011.
- 24) Dibaei, A. *Investigation of the possibility of multiple point geostatistical method application to facies simulation of Oil Reservoir*, 2011. (Advisor)
- 25) Azarbeyk, Samaneh. *Mathematical programming solution by using artificial neural networks*, 2010.