



Curriculum Vitae

Profile

Associate Professor at the Water Engineering Department, University of Tabriz, Iran, with PhD in Agricultural Engineering-Irrigation and Drainage; with more than fifty published articles; Fluent English skills and good knowledge of using technical tools; with ten years of work, research and teaching experience.

Education

Doctor of Philosophy in Agricultural Engineering-Irrigation and Drainage

Sep 2009 – Sep 2014

University of Tabriz, Tabriz, Iran

- Ranked 501-550th in QS World University Rankings by Subject 2023

GPA: 18.75/20.00

Thesis Title: "Simulation of Point Source Time - Depended Soil Moisture Profile Using Pore-Network Modelling"

(Grade: 19.75/20)

Supervisors: Prof. Ali Ashraf Sadraddini and Prof. Amir Hosseini Nazemi

Master of Science in Agricultural Engineering-Irrigation and Drainage

Sep 2007 – Sep 2009

University of Tabriz, Tabriz, Iran

- Ranked 501-550th in QS World University Rankings by Subject 2023

GPA: 17.73/20.00

Thesis Title: "Numerical and Analytical Simulation of Soil Wetting Pattern of Trickle Irrigation"

(Grade: 19.75/20)

Supervisors: Prof. Ali Ashraf Sadraddini and Prof. Amir Hosseini Nazemi

Bachelor of Science in Agricultural Engineering- Water

Sep 2003 – Sep 2007

University of Tabriz, Tabriz, Iran

GPA: 17.91/20.00

Final Project Topic: "Flood forecasting using Entropy theory" (Grade: 19/20)

Supervisor: Dr. Mohammad Ali Ghorbani

Research Interests

- Hydrology and Water Resources
- Environmental modeling
- Machine Learning (ML)
- Deep Learning (DL)
- Artificial Neural Network
- Numerical Modeling
- Earth Science
- Data Analysis

Publications

Journal Articles:

1. S. Hashemi, **S. Samadianfard**, A.H. Nazemi, "Sequence-to-sequence and meta LSTM techniques enhanced by remote sensing for advanced evapotranspiration estimation", *Earth Science Informatics*, 2025 ([Link](#))
2. P. Amirzehni, **S. Samadianfard**, A.H. Nazemi, A.A. Sadraddini, "Innovative application of the composite Bezier GSXG hybrid machine learning model for daily evapotranspiration Estimation implementing satellite image data", *Environmental Earth Sciences*, 2025 ([Link](#))
3. J. Vahedi, M. Ghahremanzadeh, E. Pishbahar, G. Dashti, **S. Samadianfard**, "Saffron price dynamics in Iran: Influence of the standardized precipitation index with Copula functions", *Journal of Cleaner Production*, 2025 ([Link](#))
4. M. Achite, **S. Samadianfard**, N. Elshaboury, K.A. Toubal, E.M. Abdelkader, M. Sharafi, "A combined support vector regression with a firefly algorithm for prediction of energy consumption in wastewater treatment plants", *Water Science & Technology*, 2025 ([Link](#))
5. M. Sharafi, S. Shadkani, A. Pak, A. Motadayen, **S. Samadianfard**, E. Aras, V. Nourani, "Developing long short-term memory combined with numerical first order differential optimization and clockwork recurrent neural network to predict suspended sediment load", *Earth Science Informatics*, 2025 ([Link](#))
6. M. Sharafi, M.A. Ghorbani, R. Barzegar, **S. Samadianfard**, " Coupling artificial neural network and sperm swarm optimization for soil temperature prediction at multiple depths", *Environmental Science and Pollution Research*, 2024 ([Link](#))
7. H. Talebi, **S. Samadianfard**, " Integration of machine learning and remote sensing for drought index prediction: A framework for water resource crisis management", *Earth Science Informatics*, 2024 ([Link](#)).
8. M. Sharafi, V. Rezavardinejad, J. Behmanesh, **S. Samadianfard**, " Development of long short-term memory along with differential optimization and neural networks for coagulant dosage prediction in water treatment plant", *Journal of Water Process Engineering*, 2024 ([Link](#))
9. M. Sharafi, **S. Samadianfard**, J. Behmanesh, R. Prasad, " Integration of fruit fly and firefly optimization algorithm with support vector regression in estimating daily pan evaporation", *International Journal of Biometeorology*, 2024 ([Link](#)).
10. M. Sharafi, H. Talebi, **S. Samadianfard**, R. Prasad, "A novel method for estimating daily evapotranspiration based on one, two, and three-day meteorological records using the long short-term memory model combined with feed forward neural networks", *Earth Science Informatics*, 2023 ([Link](#)).
11. P. Amirzahni, **S. Samadianfard**, A.H. Nazemi, A.A. Sadraddini, "Evaluating capabilities of the spline and cubic spline interpolation functions in reference evapotranspiration estimation implementing satellite image data", *Earth Science Informatics*, 2023 ([Link](#)).
12. H. Talebi, **S. Samadianfard**, K. Valizadeh Kamran, "Estimation of Daily Reference Evapotranspiration Implementing Satellite Image Data and Strategy of Ensemble Optimization Algorithm of Stochastic Gradient Descent with Multilayer Perceptron", *Environment, Development and Sustainability*, 2023 ([Link](#)).
13. H. Talebi, **S. Samadianfard**, K.V. Kamran, "Investigating the roles of different extracted parameters from satellite images in improving the accuracy of daily reference evapotranspiration estimation", *Applied Water Science*, 2023([Link](#))
14. M. Sharafi, J. Behmanesh, V. Rezavardinejad, **S. Samadianfard**, "Evaluation of AquaCrop and intelligent models in predicting yield and biomass values of wheat", *International Journal of Biometeorology*, 2023([Link](#))
15. Sepahvand, A. Golkarian, L. Billa, K. Wang, F. Rezaie, S. Panahi, **S. Samadianfard**, K. Khosravi, "Evaluation of deep machine learning-based models of soil cumulative infiltration", *Earth Science Informatics*, 2022([Link](#))

16. **S. Samadianfard**, F. Mikaeili, R. Prasad, "Evaluation of classification and decision trees in predicting daily precipitation occurrences", *Water Supply*,2022([Link](#))
17. **S. Samadianfard**, K. Kargar, S. Shadkani, S. Hashemi, A. Abbaspour, M.J.S. Safari, "Hybrid models for suspended sediment prediction: optimized random forest and multi-layer perceptron through genetic algorithm and stochastic gradient descent methods", *Neural Computing and Applications*,2022([Link](#))
18. T. Hai, H. Li, S.S. Band, S. Shadkani, **S. Samadianfard**, S. Hashemi, K.-W. Chau, A. Mousavi, "Comparison of the efficacy of particle swarm optimization and stochastic gradient descent algorithms on multi-layer perceptron model to estimate longitudinal dispersion coefficients in natural streams", *Engineering Applications of Computational Fluid Mechanics*,2022([Link](#))
19. M. Nourani, N. Alali, **S. Samadianfard**, S.S. Band, K.-w. Chau, C.-M. Shu, "Comparison of machine learning techniques for predicting porosity of chalk", *Journal of Petroleum Science and Engineering*,2022([Link](#))
20. G.C. Wang, Q. Zhang, S.S. Band, M. Dehghani, K.w. Chau, Q.T. Tho, S. Zhu, **S. Samadianfard**, A. Mosavi, "Monthly and seasonal hydrological drought forecasting using multiple extreme learning machine models", *Engineering Applications of Computational Fluid Mechanics*,2022([Link](#))
21. M.T. Sattari, H. Feizi, **S. Samadianfard**, K. Falsafian, E. Salwana, "Estimation of monthly and seasonal precipitation: A comparative study using data-driven methods versus hybrid approach", *Measurement*,2021([Link](#))
22. Mosavi, **S. Samadianfard**, S. Darbandi, N. Nabipour, S.N. Qasem, E. Salwana, S.S. Band, "Predicting soil electrical conductivity using multi-layer perceptron integrated with grey wolf optimizer", *Journal of Geochemical Exploration*,2021([Link](#))
23. S. Shadkani, A. Abbaspour, **S. Samadianfard**, S. Hashemi, A. Mosavi, S.S. Band, "Comparative study of multilayer perceptron-stochastic gradient descent and gradient boosted trees for predicting daily suspended sediment load: The case study of the Mississippi River, US", *International Journal of Sediment Research*,2021([Link](#))
24. W. Zheng, S.S. Band, H. Karami, S. Karimi, **S. Samadianfard**, S. Shadkani, K.-W. Chau, A.H. Mosavi, "Forecasting the discharge capacity of inflatable rubber dams using hybrid machine learning models", *Engineering Applications of Computational Fluid Mechanics*,2021([Link](#))
25. S.S. Band, E. Heggy, S.M. Bateni, H. Karami, M. Rabiee, **S. Samadianfard**, K.-W. Chau, A. Mosavi, "Groundwater level prediction in arid areas using wavelet analysis and Gaussian process regression", *Engineering Applications of Computational Fluid Mechanics*,2021([Link](#))
26. S. Shabani, **S. Samadianfard**, M.T. Sattari, A. Mosavi, S. Shamshirband, T. Kmet, A.R. Várkonyi-Kóczy, "Modeling pan evaporation using Gaussian process regression K-nearest neighbors random forest and support vector machines; comparative analysis", *Atmosphere*,2020([Link](#))
27. **S. Samadianfard**, S. Hashemi, K. Kargar, M. Izadyar, A. Mostafaeipour, A. Mosavi, N. Nabipour, S. Shamshirband, "Wind speed prediction using a hybrid model of the multi-layer perceptron and whale optimization algorithm", *Energy Reports*,2020([Link](#))
28. K. Kargar, **S. Samadianfard**, J. Parsa, N. Nabipour, S. Shamshirband, A. Mosavi, K.-w. Chau, "Estimating longitudinal dispersion coefficient in natural streams using empirical models and machine learning algorithms", *Engineering Applications of Computational Fluid Mechanics*,2020([Link](#))
29. S. Shamshirband, F. Esmailbeiki, D. Zarehaghi, M. Neyshabouri, **S. Samadianfard**, M.A. Ghorbani, A. Mosavi, N. Nabipour, K.-W. Chau, "Comparative analysis of hybrid models of firefly optimization algorithm with support vector machines and multilayer perceptron for predicting soil temperature at different depths", *Engineering Applications of Computational Fluid Mechanics*,2020([Link](#))
30. S. Shamshirband, S. Hashemi, H. Salimi, **S. Samadianfard**, E. Asadi, S. Shadkani, K. Kargar, A. Mosavi, N. Nabipour, K.-W. Chau, "Predicting standardized streamflow index for hydrological drought using machine learning models", *Engineering Applications of Computational Fluid Mechanics*,2020([Link](#))
31. M.A. Ghorbani, R. Khatibi, V.P. Singh, E. Kahya, H. Ruskeepää, M.K. Saggi, B. Sivakumar, S. Kim, F. Salmasi, M. Hasanpour Kashani, "Continuous monitoring of suspended sediment concentrations using image analytics and deriving inherent correlations by machine learning", *Scientific reports*,2020([Link](#))

32. L. Diop, **S. Samadianfard**, A. Bodian, Z.M. Yaseen, M.A. Ghorbani, H. Salimi, "Annual rainfall forecasting using hybrid artificial intelligence model: integration of multilayer perceptron with whale optimization algorithm", *Water Resources Management*,2020([Link](#))
33. K. Kargar, M.J.S. Safari, M. Mohammadi, **S. Samadianfard**, "Sediment transport modeling in open channels using neuro-fuzzy and gene expression programming techniques", *Water Science and Technology*,2019([Link](#))
34. S.N. Qasem, **S. Samadianfard**, S. Kheshtgar, S. Jarhan, O. Kisi, S. Shamshirband, K.-W. Chau, "Modeling monthly pan evaporation using wavelet support vector regression and wavelet artificial neural networks in arid and humid climates", *Engineering Applications of Computational Fluid Mechanics*,2019([Link](#))
35. **S. Samadianfard**, S. Jarhan, E. Salwana, A. Mosavi, S. Shamshirband, S. Akib, "Support vector regression integrated with fruit fly optimization algorithm for river flow forecasting in Lake Urmia Basin", *Water*,2019([Link](#))
36. **S. Samadianfard**, A. Majnooni-Heris, S.N. Qasem, O. Kisi, S. Shamshirband, K.-w. Chau, "Daily global solar radiation modeling using data-driven techniques and empirical equations in a semi-arid climate", *Engineering Applications of Computational Fluid Mechanics*,2019([Link](#))
37. S.N. Qasem, **S. Samadianfard**, H. Sadri Nahand, A. Mosavi, S. Shamshirband, K.-w. Chau, "Estimating daily dew point temperature using machine learning algorithms", *Water*,2019([Link](#))
38. M. Zounemat-Kermani, Y. Seo, S. Kim, M.A. Ghorbani, **S. Samadianfard**, S. Naghsara, N.W. Kim, V.P. Singh, "Can decomposition approaches always enhance soft computing models? Predicting the dissolved oxygen concentration in the St. Johns River, Florida", *Applied Sciences*,2019([Link](#))
39. E. Asadi, M. Isazadeh, **S. Samadianfard**, M.F. Ramli, A. Mosavi, N. Nabipour, S. Shamshirband, E. Hajnal, K.-W. Chau, "Groundwater quality assessment for sustainable drinking and irrigation", *Sustainability*,2019([Link](#))
40. **S. Samadianfard**, E. Asadi, S. Jarhan, H. Kazemi, S. Kheshtgar, O. Kisi, S. Sajjadi, A.A. Manaf, "Wavelet neural networks and gene expression programming models to predict short-term soil temperature at different depths", *Soil and Tillage Research*,2018([Link](#))
41. **S. Samadianfard**, M.A. Ghorbani, B. Mohammadi, "Forecasting soil temperature at multiple-depth with a hybrid artificial neural network model coupled-hybrid firefly optimizer algorithm", *Information Processing in Agriculture*,2018([Link](#))
42. **S. Samadianfard**, S. Jarhan, H.S. Nahand, "Application of support vector regression integrated with firefly optimization algorithm for predicting global solar radiation", *Journal of Energy Systems*,2018([Link](#))
43. R.C. Deo, M.A. Ghorbani, **S. Samadianfard**, T. Maraseni, M. Bilgili, M. Biazar, "Multi-layer perceptron hybrid model integrated with the firefly optimizer algorithm for windspeed prediction of target site using a limited set of neighboring reference station data", *Renewable Energy*,2018([Link](#))
44. B. Esmaeilzadeh, M.T. Sattari, **S. Samadianfard**, "Performance evaluation of ANNs and an M5 model tree in Sattarkhan Reservoir inflow prediction", *ISH Journal of Hydraulic Engineering*,2017([Link](#))
45. **S. Samadianfard**, R. Delirhasannia, M.T. Azad, **S. Samadianfard**, M. Jeihouni, "Intelligent analysis of global warming effects on sea surface temperature in Hormuzgan Coast, Persian Gulf", *International Journal of Global Warming*,2016([Link](#))
46. **S. Samadianfard**, H. Kazemi, O. Kisi, L. Wen-Cheng, "Water temperature prediction in a subtropical subalpine lake using soft computing techniques", *Earth Sciences Research Journal*,2016([Link](#))
47. M. Jeihouni, R. Delirhasannia, S.K. Alavipanah, M. Shahabi, **S. Samadianfard**, "Spatial analysis of groundwater electrical conductivity using ordinary kriging and artificial intelligence methods.(Case Study: Tabriz Plain, Iran)", *Geofizika*,2015([Link](#))
48. **S. Samadianfard**, M. Taghi Sattari, O. Kisi, H. Kazemi, "Determining flow friction factor in irrigation pipes using data mining and artificial intelligence approaches", *Applied Artificial Intelligence*,2014([Link](#))
49. **S. Samadianfard**, R. Delirhasannia, Ö. Kişi, E. Agirre-Basurko, "Comparative analysis of ozone level prediction models using gene expression programming and multiple linear regression", *Geofizika*,2013([Link](#))

50. **S. Samadianfard**, A.A. Sadraddini, A.H. Nazemi, "Numerical and experimental analyses of a sandy soil water movement under a point source using dynamic pore network modeling", *Journal of Applied Biological Sciences*, 2013 ([Link](#))
51. **S. Samadianfard**, "Gene expression programming analysis of implicit Colebrook-White equation in turbulent flow friction factor calculation", *Journal of Petroleum Science and Engineering*, 2012 ([Link](#))
52. **S. Samadianfard**, A. Sadraddini, A. Nazemi, G. Provenzano, O. Kisi, "Estimating soil wetting patterns for drip irrigation using genetic programming", *Spanish journal of agricultural research*, 2012 ([Link](#))

Presented Papers in International Conferences:

1. R. Delirhasannia, **S. Samadianfard**, H. Rasouli, "Modeling Evaporation from Salty Water Lakes (Case Study: Lake Urmia, Northwest of Iran)", *1st World Multidisciplinary Earth Science Symposium*, 2015, Prague, Czech Republic.
2. M.T. Sattari, **S. Samadianfard**, "Daily reservoir inflow forecasting using data mining methods", *2nd World Multidisciplinary Earth Science Symposium*, 2016, Prague, Czech Republic.
3. **S. Samadianfard**, A.H. Nazemi, A.A. Sadraddini, "Simulation of water movement and its distribution in a soil column under a water source using pore - scale network modeling", *3rd European Conference on Unsaturated Soils (E-UNSAT 2016)*, 2016, Paris, France.
4. **S. Samadianfard**, S. Jarhan, H. Sadri Nahand, "Predicting global solar radiation using support vector regression integrated with firefly optimization algorithm", *6th European Conference on Renewable Energy Systems*, 2018, Istanbul, Turkey.
5. **S. Samadianfard**, A.A. Sadraddini, A. Tabatabaei, S. Hashemi, "Investigating the effects of fertigation on the clogging and uniformity distribution of emitters", *International conference on veterinary, agriculture and life sciences (ICVALS)*, 2019, Antalya, Turkey.
6. M. Sharafi, **S. Samadianfard**, A. Majnooni-Heris, "Coupling a firefly algorithm with a support vector regression to predict daily evaporation in coastal areas of Iran", *9th International Conference on Computational and Experimental Science and Engineering*, 2022, Antalya, Turkey.
7. A. Majnooni-Heris, A. Fakherifard, M. Vaez Madani, **S. Samadianfard**, "Effects of precipitation, Wet and Drought Periods on Rainfed Wheat Yield in a Semi-Arid Region", *9th International Conference on Computational and Experimental Science and Engineering*, 2022, Antalya, Turkey.
8. H. Talebi, **S. Samadianfard**, K. Valizadeh Kamran, "Enhancing water resource management in the Moghan region, Iran, through satellite-based remote sensing analysis yield in a semi-arid region", *International Ege Agricultural Congress*, 2023, Izmir, Turkey.

Technical Skills

▪ Wolfram Mathematica		▪ Minitab	
▪ Weka		▪ Origin	
▪ Python		▪ SPSS	
▪ RapidMiner		▪ XLSTAT	
▪ C++		▪ Microsoft Office	

Professional and Academic Experiences

▪ Head of Water Engineering Department

2022 - 2024

University of Tabriz, Tabriz, Iran

▪ Associate Professor

2021 - Present

- Work, Teach and Research in the Water Engineering Department

University of Tabriz, Tabriz, Iran

▪ Assistant Professor

2015 - 2021

- Work, Teach and Research in the Water Engineering Department

University of Tabriz, Tabriz, Iran

▪ Article Reviewer

Reviewing several articles in ([Link](#)), ([Link](#)):

- Acta Geophysica
- Advanced engineering informatics
- Applied water science
- Arabian journal of geosciences
- Civil engineering
- Cognitive Computation and System
- Concurrency and computation-practice & experience
- Ecological informatics
- Energy reports
- Energy sources part A-recovery utilization and environmental effects
- Engineering applications of artificial intelligence
- Environmental science and pollution research
- Expert systems with applications
- Geocarto international
- Heliyon
- Hydrological Sciences Journal
- IEEE internet of things journal
- Irrigation and drainage
- Journal of hydrology
- Journal of soil science and plant nutrition
- Journal of soils and sediments
- Meteorological applications
- MethodsX
- Natural hazards
- Plos one
- Results in engineering
- Science of the total environment
- Soil & tillage research

Language Competence and Test Scores

Persian (Native), Azari (Native), English (Fluent)

TOEFL iBT:

Overall Score:	Reading:	Writing:	Listening:	Speaking:
83	16	20	21	26

Courses

No.	Institute Name	Course Title	Begin Date	End Date
1	University of Tabriz	Computer programming	2014	present
2	University of Tabriz	Surveying	2014	present
3	University of Tabriz	General irrigation	2014	present
4	University of Tabriz	Principles of agriculture	2014	2018
5	University of Tabriz	Soil physics	2014	2015
6	University of Tabriz	Designing pressurized irrigation systems	2015	present
7	University of Tabriz	New methods in water resources	2018	2019
8	University of Tabriz	Engineering economics	2018	2019
9	University of Tabriz	New technologies in water resources	2018	2019
10	University of Tabriz	Computing methods in water engineering	2018	present
11	University of Tabriz	Designing drip irrigation systems	2018	present
12	University of Tabriz	Optimization in water resources	2018	present
13	University of Tabriz	Advanced engineering statistics	2018	present

Honors and Awards

- Selected as one of the **world's top 2% of scientists** by Stanford University in the single recent year impact criteria of 2023 for publications and citations in the subfield of Environmental Engineering, 2023([Link](#)).
- Selected as a recipient of the **Hydrological Sciences Journal Reviewer Award** for 2023 ([Link](#)).
- Selected as one of the **world's top 2% of scientists** by Stanford University in the single recent year impact criteria of 2022 for publications and citations in the subfield of Environmental Engineering, 2023([Link](#)).
- Selected as one of the **world's top 2% of scientists** by Stanford University in the single recent year impact criteria of 2020 for publications and citations in the subfield of Environmental Engineering, 2021([Link](#)).
- Scholarship of Ministry of Science, Research and Technology of Iran, **2013**
- **Author of top presented paper** at international conference "Innovation as a Function of Engineering Development, Nis, Serbia, **2011**.
- Ranked 1th among Agricultural Engineering Ph.D. University of Tabriz Entrance Exam, **2009**
- Ranked 12th among Agricultural Engineering M.Sc. University Entrance Exam of Iran, **2007**
- Ranked in top 2% among participants in University Entrance Exam of Iran (Konkur), **2003**