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Department of Applied Mathematics, University of Kurdistan, Sanandaj, Iran

PERSONAL DATA

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Position Associate Professor of Applied Mathematics

EDUCATION

BSc. in Applied Mathematics , Amirkabir University of Technology , Iran (1995 - 1998).

MSc. in Applied Mathematics , Tarbiat Modares University , Iran (1998 - 2000).

PhD. in Applied Mathematics , Amirkabir University of Technology , Iran (2008 - 2011).

JOURNAL PUBLICATIONS

- Community detection via deep motif-regularized asymmetric nonnegative matrix factorization, H Sohrabi, A Seyedi, S Esmaili, M Parham, Engineering Applications of Artificial Intelligence 165 (B), 113505, 2026.
- A robust unsupervised feature selection based on subspace learning and adaptive graph structure, H Sohrabi, S Esmaili, P Moradi, Journal of Mathematical Modeling, 1-23, 2025.
- Graph regularized weighted symmetric nonnegative matrix factorization for data clustering, H Sohrabi, S Esmaili, P Moradi, Iranian Journal of Science, 1-18, 2025.
- Feature representation via graph-regularized entropy- weighted nonnegative matrix factorization, H Sohrabi, S Esmaili, P Moradi, AUT Journal of Mathematics and Computing 5, 289-304, 2024.
- Combining nonnegative matrix factorization technique with trust relationships for recommendation in social networks, H Parvin, P Moradi, S Esmaili, Tabriz Journal of Electrical Engineering 50, 605-618, 2020.
- Fractional-order Model for Cooling of a Semi-infinite Body by Radiation, S Esmaili, Journal of Advanced Mathematical Modeling 10, 88-105, 2020.

- TCFAO: Trust-aware collaborative filtering method based on ant colony optimization, H Parvin, P Moradi, S Esmaili, *Expert Systems with Applications* 118, 152-168, 2019.
- A scalable and robust trust-based nonnegative matrix factorization recommender using the alternating direction method, H Parvin, P Moradi, S Esmaili, NN Qader, *Knowledge-Based Systems* 166, 92–107, 2019.
- A modified Benders Heuristic decomposition algorithm for nonlinear dynamic Facility Location in integrated closed chain problem, A Rahmani, S Esmaili, *Complex and Nonlinear Systems* 1, 29-46, 2018.
- The numerical solution of the Bagley-Torvik equation by exponential integrators, S Esmaili, *Scientia Iranica, Transactions on Mechanical Engineering* 24, 2941-2951, 2017.
- Numerical Solution of Gas Solution in a Fluid: Fractional Derivative Model, S Esmaili, *Iranian Journal of Mathematical Chemistry* 8 (4), 425-437, 2017.
- A piecewise nonpolynomial collocation method for fractional differential equations, S Esmaili, *Journal of Computational and Nonlinear Dynamics* 12, 051020-7, 2017.
- Solving 2D time-fractional diffusion equations by a pseudospectral method and Mittag-Leffler function evaluation, S Esmaili, *Mathematical Methods in the Applied Sciences* 40, 1838–1850, 2017.
- A pseudo-spectral scheme for the approximate solution of a time-fractional diffusion equation, S Esmaili, R Garrappa, *International Journal of Computer Mathematics* 92, 980-994, 2015.
- Nonstandard Gauss-Lobatto quadrature approximation to fractional derivatives, S Esmaili, GV Milovanović, *Fractional Calculus and Applied Analysis* 17, 1075-1099, 2014.
- Numerical solution of fractional differential equations via a Volterra integral equation approach, S Esmaili, M Shamsi, M Dehghan, *Central European Journal of Physics* 11, 1470-1481, 2013.
- A pseudo-spectral scheme for the approximate solution of a family of fractional differential equations, S Esmaili, M Shamsi, *Communications in nonlinear science and numerical simulation* 16, 3646-3654, 2011.
- Numerical solution of fractional differential equations with a collocation method based on Müntz polynomials, S Esmaili, M Shamsi, Y Luchko, *Computers & Mathematics with Applications* 62, 918-929, 2011.

CONFERENCE PAPERS

- An efficient recommender system by integrating non-negative matrix factorization with trust and distrust relationships, H Parvin, P Moradi, S Esmaeili, M Jalili, 2018 IEEE Data Science Workshop (DSW), 135-139, 2018.
- Nonnegative matrix factorization regularized with trust relationships for solving cold-start problem in recommender Systems, H Parvin, P Moradi, S Esmaeili, Electrical Engineering (ICEE), Iranian conference on, 1571-1576, 2018.
- A collaborative filtering method based on genetic algorithm and trust statements, H Parvin, P Moradi, S Esmaeili, 2018 6th Iranian Joint Congress on Fuzzy and Intelligent Systems (CFIS), 13-16, 2018.
- Numerical Solution of Fractional Linear Systems, S Esmaeili, Proceeding of the 6th Conference on Numerical Analysis and its Applications, Maragheh Iran, 2016.
- Numerical solution of the Basset equation via Müntz polynomials, S Esmaeili, Proceeding of the 10th Seminar on Differential Equations and Dynamical, Babolsar Iran, 2013.
- A pseudospectral method for the time-fractional diffusion equation, S Esmaeili, Proceeding of the 4th Conference on Numerical Analysis and its Applications, Khansar, Iran, 2013.

RESEARCH INTERESTS

- Data Analysis.
- Numerical Solution of Differential Equations.
- Matrix Factorization for Recommender Systems.

TEACHING EXPERIENCE

- Calculus
- Data Mining
- Numerical Analysis
- Nonlinear Optimization
- Mathematical Software
- Numerical Linear Algebra
- Design and Analysis of Algorithms

PROGRAMMING AND SOFTWARE SKILLS

- **Programming Languages:** C++ and Python programming
- **Numeric Software:** JULIA and MATLAB
- **Symbolic Software:** MAPLE and MATHEMATICA
- **Technical Writing:** LaTeX

EXECUTIVE ACTIVITIES

- **Editorial Board Member:** Mathematical Culture and Thought (2019 - 2022)
- **Senior Editor:** Mathematical Culture and Thought (2022 - 2025)