

Esmat Rashedi

Ph.D.

**Assistant Professor, Department of Electrical Engineering
Graduate University of Advanced Technology, Kerman, Iran**

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Gender: *Female*

Place of Birth: *Kerman, Iran*

Nationality : *Iranian*

Country of Residence: *Iran*

Mailing Address: *Department of Electrical Engineering, Graduate University of Advanced Technology, P.O. Box 76315-117, Kerman, Iran.*

EDUCATION

Shahid Bahonar University of Kerman, Kerman, Iran

Ph.D. Degree in Communication Engineering

Department of Electrical Engineering

Dates: January 2010 to July 2013

Supervisor: Prof. H. Nezamabadi-pour.

Thesis topic: *Content based image retrieval using joint short term learning and long term learning in semantic space*

Shahid Bahonar University of Kerman, Kerman, Iran

M.Sc. Degree in Communication Engineering

Department of Electrical Engineering

Dates: September 2005 to September 2007

Supervisor: Prof. H. Nezamabadi-pour.

Thesis topic: *Gravitational search algorithm*

Shahid Bahonar University of Kerman, Kerman, Iran

B.S. Degree in Electrical Engineering

Department of Electrical Engineering

Dates: September 2000 to December 2004

Thesis topic: *Recognition of Persian handwritten digits*

Experiences:

- Industrial Automation Engineer, KHK company, Kerman, Iran, 2006-2010
- Assistant Professor, Graduate University of Advanced Technology, Kerman, Iran, 2013-2018.
- Associate Professor, Graduate University of Advanced Technology, Kerman, Iran, 2018-now.

RESEARCH INTERESTS:

Heuristic optimization algorithms

Pattern recognition

Computer vision

Image processing

Soft computing

Artificial neural networks

Fuzzy inference systems

Gravitational search algorithm

Deep learning

Skills:

Worked with: Matlab, Python, c++, opencv, citectSCADA.

Awards and Honors:

Top 1% Scientist in the World in Computer Sciences.

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Journal Papers:

1. H Rezaei Estakhroyeh, M Mehran, E Rashedi, "Optimized Design of a Memristive-SiNW Biotransducer in Charge Detection", *Silicon*, 1-10, 2025.
2. H Rezaei Estakhroyeh, M Mehran, E Rashedi, "Optimization of Developed Memristive Silicon Nanowire using Heuristic Search Algorithms", *Silicon* 17 (7), 1543-1553, 2025.
3. A Sedghi, M Amoozegar, E Rashedi, F Afsari, "RGRU: Online Robust Gated Recurrent Units for Real-Time Background Subtraction in Video Sequences", *Journal of Computing & Security* 12 (1), 65-83, 2025.
4. S Anvari, M Moghaddasi, E Rashedi, A El-Shafie, "Comparative analysis of three soft computing techniques for optimizing reservoir rule curves", *Water Practice & Technology* 20 (3), 714-731, 2025.
5. M Bamorovat, I Sharifi, A Tahmouresi, S Agha Kuchak Afshari, E Rashedi, "Unlocking Responsive and Unresponsive Signatures: A Transfer Learning Approach for Automated Classification in Cutaneous Leishmaniasis Lesions", *Transboundary and Emerging Diseases* 2025 (1), 5018632, 2025.
6. E Ghoghghi, MAE Farsangi, H Mansouri, E Rashedi, "Prediction and minimization of blasting flyrock distance", using deep neural networks and gravitational search algorithm, JAYA, and multi-verse optimization algorithms, *Heliyon* 10 (19), 2024.
7. E Sharifi, MAE Farsangi, H Mansouri, E Rashedi, "Determining Rock Fragment Size Distribution Using a Convolutional Neural Network", *Rudarsko-geološko-naftni zbornik* 39 (2), 1-14, 2024.
8. M. Ahmadipour, E Rashedi, M Amoozegar, "Electricity Consumption Forecasting Using a Hybrid Approach Based on Transformer Model and LSTM Neural Network", *Iranian Electric Industry Journal of Quality and Productivity*, 2024, (in Persian).
9. M. Kushki, E Rashedi, M Amoozegar, "Backsubtraction using deep long short-term memory neural networks and attention mechanism", *Iranian journal of machine vision and image processing*, 11(1), 95-105, 2024, (in Persian).
10. A Sedghi, M Amoozegar, E Rashedi, F Afsari, "ORGRU: Online Robust Gated Recurrent Units for Real-Time Background Subtraction in Video Sequences", *Researchsquare*, 2023.
11. M Kamandar, E Rashedi, A Sanati, "Channel Selection in EEG Signals Using Mutual Information for Motor Imagery Classification", *Signal and Data Processing* 20 (3), 61-72, 2023 (in Persian).
12. S Anvari, E Rashedi, S Mohammadi, "The Use of Soft Computing Techniques for Irrigation Scheduling during Drought Episode", *Irrigation and Water Engineering* 12 (4), 176-194, 2022.
13. A Tahmouresi, E Rashedi, MM Yaghoobi, M Rezaei, "Gene selection using pyramid gravitational search algorithm", *Plos one* 17 (3), 2022.
14. M. Bamorovat, I. Sharifi, E. Rashedi, A. Shafian, F. Sharifi, A. Khosravi, A. Tahmouresi, "A novel diagnostic and prognostic approach for unresponsive patients with anthroponotic cutaneous leishmaniasis using artificial neural Networks", *Plos One*, 16(5), 2021.

15. S. Rakhshani, E. Rashedi, H. Nezamabadi-pour, "Representation learning in a deep network for license plate recognition", *Multimedia Tools and Applications*, 79 (19), 13267-13289, 2020.
16. F. Rahdari, E. Rashedi, M. Eftekhari, "A Multimodal Emotion Recognition System Using Facial Landmark Analysis", *Iranian Journal of Science and Technology, Transactions of Electrical Engineering*, 43(1), 171-189, 2019.
17. H. Zandevakili, E. Rashedi, A. Mahani, "Gravitational search algorithm with both attractive and repulsive forces", *Soft Computing*, 23(3), 783-825, 2019.
18. H. Fallah, S. Ghazanfari, C.R. Suribabu, E. Rashedi, "Optimal pipe dimensioning in water distribution networks using Gravitational Search Algorithm", 1-14, 2019.
19. E. Rashedi, E. Rashedi, H. Nezamabadi-pour, "A comprehensive survey on gravitational search algorithm", *Swarm and evolutionary computation*, 41, 141-158, 2018.
20. E. Rashedi, H. Nezamabadi-pour, "A hierarchical algorithm for vehicle license plate localization", *Multimedia Tools and Applications*, vol. 77 (2), 2771-2790, 2018.
21. H.R. Estakhroyeh, E. Rashedi, M. Mehran, "Design and construction of electronic nose for multi-purpose applications by sensor array arrangement using IBGSA", *Journal of Intelligent & Robotic Systems*, 92(2), 205-221, 2018.
22. S. Kashef, H. Nezamabadi-pour, E. Rashedi, "Adaptive enhancement and binarization techniques for degraded plate images", *Multimedia Tools and Applications*, 77(13), 16579-95, 2018.
23. V. Sattari-Naeini, Y. Salem, E. Rashedi, "Application of Shuffled Frog-Leaping Algorithm to Reduce Energy Consumption in Cloud Data Centers by Optimizing Scheduling Management and Virtual Machines Consolidation", *Tabriz Journal of Electrical Engineering* 48 (2), 687-698, 2018, (in Persian).
24. M. Nekoei, H. Nezamabadi-pour, E. Rashedi, "Classification of L/R hand motor imagery in brain computer interfaces using feature selection by metaheuristic algorithms", *Journal of Health and Biomedical Informatics*, vol. 4(2), pp. 142-153, 2017, (in Persian).
25. F. Shirazi, E. Rashedi, H. Nezamabadi-pour, "Tumor segmentation in mammogram images using Chan Vese active contour and texture local feature information", *Iranian journal of machine vision and image processing*, 2017, (in Persian).
26. M. Shams, E. Rashedi, S.M. Dashti, A. Hakimi, "Ideal Gas Optimization Algorithm", *International Journal of Artificial Intelligence™*, vol. 15 (2), pp. 116-130, 2017.
27. A. Nowrouzifar, E. Rashedi, M.A. Rajabi, F. Naseri, "Urban growth modeling using integrated cellular automata and gravitational search algorithm", *Journal of Geomatics Science and Technology*, vol. 7 (1), pp. 29-39, 2017.
28. A. Askarzadeh, E. Rashedi, "Harmony search algorithm: basic concepts and engineering applications", Chapter book of "Recent Developments in Intelligent Nature-Inspired Computing", IGI Global, 2017.
29. E. Ghaemi, E. Rashedi, A.M. Pourrahimi, M. Kamandar, F. Rahdari, "Automatic channel selection in EEG signals for classification of left or right hand movement in Brain Computer Interfaces using improved binary gravitation search algorithm", *Biomedical Signal Processing and Control*, vol. 33, pp. 109-118, 2017.
30. Z. Baharvand, A. Hakimi, E. Rashedi, "A novel design of ultra-broadband, high-gain and high-linearity variable gain distributed amplifier in 0.13 μm CMOS technology", *International Journal of Electronics*, vol. 103, no. 12, pp. 2075-2089, 2016.
31. F. Azadipourghahestani, E. Rashedi, "Hand gesture recognition for human computer interaction using motion trajectory coding and artificial neural network", *Iranian journal of machine vision and image processing*, vol. 3, no. 2, pp. 13-22, 2016, (in Persian).

32. M. Najafzadeh, M. R. Balf, Esmat Rashedi, "Prediction of maximum scour depth around piers with debris accumulation using EPR, MT, and GEP models", *Journal of Hydroinformatics*, vol. 18 (5), pp. 867-884, 2016.
33. S. E. Mood, E. Rashedi, M. Javidi, "New functions for mass calculation in gravitational search algorithm", *Journal of computing and security*, vol. 2. no. 3, pp. 233-246, 2015.
34. M. Shams, E. Rashedi, A. Hakimi, "Clustered-gravitational search algorithm and its application in parameter optimization of a Low Noise Amplifier", *Applied Mathematics and Computation*, vol. 258, pp. 436-453, 2015.
35. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "Information fusion between short term learning and long term learning in content based image retrieval systems", *Multimedia tools and applications*, vol. 74(11), pp. 3799-3822, 2015.
36. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "Long Term Learning in Image Retrieval Systems using Case Based Reasoning", *Engineering Applications of Artificial Intelligence*, vol. 35 , pp. 26-37, 2014.
37. E. Rashedi, H. Nezamabadi-pour, "Feature subset selection using improved binary gravitational search algorithm", *Journal of Intelligent and Fuzzy Systems*, vol. 26, pp. 1211-1221, 2014.
38. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "Improving the precision of CBIR systems by color and texture feature adaptation using GSA", *Intelligent systems in Electrical engineering*, vol. 4 (3) , pp. 43-56, 2013. (in Persian)
39. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "An improved short term learning method based on gradient descent in image retrieval systems", *Iranian journal of machine vision and image processing*, vol. 1, pp. 19-27, 2013. (in Persian)
40. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "A simultaneous feature adaptation and feature selection method for content-based image retrieval systems", *Knowledge-Based Systems*, vol. 39, pp. 85-94, 2013.
41. E. Rashedi, H. Nezamabadi-pour, "A Stochastic gravitational approach to feature based color image segmentation", *Engineering Applications of Artificial Intelligence*, vol. 26, pp. 1322-1332, 2013.
42. E. Rashedi, H. Nezamabadi-pour, "A Long Term Learning Scheme in CBIR Systems by Defining Semantic Templates Using Information of Similarity-Refinement based Short Term Learning", *Iranian Journal of Electrical and Computer Engineering (IJECE)*, 2012. (in Persian)
43. H. Naji, M. Sohrabi, E. Rashedi, "A High Speed and Performance Optimization Algorithm Based on Gravitational Approach", *Computing in Science and Engineering*, IEEE Computer Society, vol. 11(5), 56 – 62, 2012.
44. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "Filter modeling using gravitational search algorithm", *Engineering Application of Artificial Intelligence*, vol. 24, no.1 pp. 117-122, 2011.
45. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "BGSA: binary gravitational search algorithm", *Natural Computing*, vol.9, no. 3, pp. 727-745, 2010.
46. M. Jahangard, S. Saryazdi, H. Nezamabadi-pour, E. Rashedi, "An geodesic based image inpainting scheme in the wavelet domain", *Iranian Journal of Electrical and Computer Engineering (IJECE)*, vol. 8, no. 1, pp. 22-30, 2010. (in Persian)
47. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "GSA: a gravitational search algorithm", *Information Science*, vol. 179, Issue13, pp. 2232-2248, 2009.
48. H. Nezamabadi-pour, S. Saryazdi, E. Rashedi, "Edge detection using ant algorithms", *Soft Computing*, vol. 10, no. 7, pp. 623-628, 2006.

Conference papers:

1. H. Rezaie, M. Mehran, E. Rashedi, "Enhanced sensitivity of ISFET pH-sensor utilizing reduced graphene oxide", 6th Iranian International Conference on Microelectronics, Tabriz, October 2024.
2. A Sedghi, E Rashedi, M Amoozegar, F Afsari, Online vehicle detection using gated recurrent units, International Conference on Artificial Intelligence and Smart Vehicle, 2023.
3. H Khadempir, F Afsari, E Rashed, "Domain adaptation based on incremental adversarial learning", 8th Iranian Joint Congress on Fuzzy and intelligent Systems (CFIS), 199-203, 2020.
4. S.E. Farsangi, E. Rashedi, M.M. Farsangi, "Multi-objective VAr planning using fuzzy-GSA", 2nd Conference on Swarm Intelligence and Evolutionary Computation (CSIEC), pp. 147-151, Kerman, Iran, March 7-9 2017.
5. F. Shirazi, E. Rashedi, "Feature weighting for cancer tumor detection in mammography images using gravitational search algorithm", 6th International Conference on Computer and Knowledge Engineering (ICCCKE 2016), Ferdowsi University of Mashhad, October 20-21 2016.
6. H. Rezaei Estakhroyeh, M. Mehran, E. Rashedi, M. R. H. Ravari, "Silicon Nanowires (SiNWs) growth using one-step wet chemical etching", International congress on nanoscience and nanotechnology, ICNN2016, Kharazmi university, Karaj, Iran, October 26-28 2016.
7. F. Shirazi, E. Rashedi, "Detection of cancer tumors in mammography images using support vector machine and mixed gravitational search algorithm", 1st Conference on Swarm Intelligence and Evolutionary Computation (CSIEC2016), Iran, Bam, March 2016.
8. F. Khajooei, E. Rashedi, "A new version of gravitational search algorithm with negative mass", 1st Conference on Swarm Intelligence and Evolutionary Computation (CSIEC2016), Iran, Bam, March 2016.
9. H. R. Estakhroueiye, E. Rashedi, "Detecting moldy bread using an E-Nose and the KNN classifier", 5th International eConference on Computer and Knowledge Engineering (ICCCKE2015), Mashhad, Iran, Oct 29, 2015.
10. F. Azadi pourghahestani, E. Rashedi, "Object detection in images using artificial neural network and improved binary gravitational search algorithm", The 4th Iranian joint congress on fuzzy and intelligent systems, Zahedan, Iran, Sep 2015.
11. M. Shams, A. Hakimi, E. Rashedi, "Design and analysis of a 3.1-10.6 GHz ultra-wideband low noise amplifier in 0.13mm CMOS", The 3th Iranian national conference on engineering electromagnetics, ICEEM2014, Tehran, Dec 2014.
12. M. M. Pezhman, A. Hakimi, E. Rashedi, "Designing a high gain dual-band DA with CRLH-TL", The 3th Iranian national conference on engineering electromagnetics, ICEEM2014, Tehran, Dec 2014.
13. M. Amoozegar, E. Rashedi, "Parameter tuning of GSA using DOE", 4th International conference on Computer and Knowledge Engineering (ICCCKE), Mashhad, Oct 2014.
14. E. Rashedi, A. Zarezadeh, "Noise Filtering in Ultrasound Images Using Gravitational Search Algorithm", 12th Iranian conference on Intelligent Systems, ICIS2014, Bam, Feb 2014.
15. F. Azari, S. Saryazdi, H. Nezamabadi-pour, E. Rashedi, "A short term learning in CBIR systems using kernel-based distance learning", 12th Iranian conference on Intelligent Systems, ICIS2014, Bam, Feb 2014. (in Persian)
16. E. Rashedi, H. Nezamabadi-pour, S. Saryazdi, "A Gradient Descent based Similarity Refinement Method for CBIR Systems", 6th International symposium on Telecommunications IST2012, Research institute for information, Tehran in Nov 6-8, 2012.

17. F.saeidi-khabisi, E.Rashedi, "Fuzzy gravitational search algorithm", 2th International eConference on Computer and Knowledge Engineering (ICCKE2012), Mashhad, Iran, Oct 18-19, 2012.
18. E.Rashedi, H.Nezamabadi-pour, "A Long Term Learning Method in CBIR Systems by Defining Semantic Templates", 20th Iranian Conference on Electrical Engineering, ICEE2012, University of Tehran in May 15-17, 2012.
19. E.Rashedi, H.Nezamabadi-pour, "Improving the precision of CBIR systems by feature selection using binary gravitational search algorithm", 16th International symposium on Artificial Intelligence and Signal Processing, AISP2012, Shiraz in May, 2012.
20. E. Rashedi, H. Nezamabadi-pour, "A stochastic gravitational approach to color image segmentation by considering spatial information", International Conference on Communications Engineering, 24 Dec 2010, Zahedan, Iran.
21. E.Rashedi, H.Nezamabadi-pour, S. Saryazi, "Non-linear system modeling by rational filters based on gravitational search algorithm", 17th Iranian Conference on Electrical Engineering (ICEE'09), Tehran, Iran, vol. 4 (Communication), pp. 37-44, May 2009. (in Persian)
22. A.Ganjalkhani, M.Arabzade, E. Rashedi, M.Hashemi, "Technical investigation of substation Automation in Kerman", 14nd Electric power distribution conference, Kerman, Iran, May 2009. (in Persian)
23. H.Nezamabadi-pour, M.Amin-Hosseini, S.Zeinaldini, E.Rashedi, "Feature selection using scatter search algorithm", 13th Annual CSI Computer Conference (CSICC'08), Kish Island, Iran, March 2008. (in Persian)
24. E.Rashedi, H.Nezamabadi-pour, S. Saryazi, "IIR filter design using gravitational search algorithm", 16th Iranian Conference on Electrical Engineering (ICEE'08), Tehran, Iran, vol. 4 (Communication), pp. 469-474, May 2008. (in Persian)
25. E.Rashedi, H.Nezamabadi-pour, H.Touhidi, "Feature selection using binary Gravitational search algorithm", 3rd International Conference on Information and Knowledge Technology, IKT2007, Mashhad, Iran, Dec. 2007. (in Persian)
26. E.Rashedi, H.Nezamabadi-pour, S. Saryazdi, M.M. Farsangi, "Allocation of Static Var Compensator Using Gravitational Search Algorithm", Frist Joint Congress on Fuzzy and Intelligent Systems, Mashhad, Iran, Aug. 2007.
27. E.Rashedi, H.Nezamabadi-pour, S.Saryazdi, "A binary version of Gravitational search algorithm", Frist Joint Congress on Fuzzy and Intelligent Systems, Mashhad, Iran, Aug. 2007. (in Persian)
28. E.Rashedi, and H.Nezamabadi-pour, "Gravitational search algorithm", 15th Iranian Conference on Electrical Engineering (ICEE'07), Tehran, Iran, pp. 139-144, 2007. (in Persian)
29. E.Rashedi, H.Nezamabadi-pour, S.saryazdi, "Optical Farsi font recognition based on auto-correlation coefficients", 4th Iranian Conference on Machine Vision, Image Processing & Applications (MVIP'07), Mashhad, Iran, pp. 48-56, 2007. (in Persian)
30. H.Nezamabadi-pour, E.Rashedi, S.Saryazdi, E.Kabir, "Improvement of Neural Network's performance using clustering", 2nd International Conference On Information and Knowledge Technology, IKT2005, Tehran, pp.286-292, Dec. 2005. (in Persian)
31. E.Rashedi, H.Nezamabadi-pour, S.Saryazdi, "Persian Handwritten Digit Recognition using Structural Features and Decision Tree", 10th Annual CSI Computer Conference (CSICC'05), Tehran, pp. 603-610, Feb. 2005. (in Persian)
32. E.Rashedi, H.Nezamabadi-pour, S.Saryazdi, "Edge detection based on ant colony search algorithm", 1st International Conference on Information and Knowledge Technology, IKT2003, Tehran, pp. 254-263, Dec. 2003. (in Persian)