

**In the Name of God**

**Curriculum Vitae (C.V.)  
Maryam Imani**

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**Education**

**Postdoctoral Fellow:** Electrical and Computer Engineering Faculty, Tarbiat Modares University, Tehran, Iran, Nov. 2015-2016.

Research title: Extraction and Fusion of Features from Hyperspectral Images for Improvement of Classification Accuracy

**Ph.D.:** Electrical and Computer Engineering Faculty, Tarbiat Modares University, Tehran, Iran, Sept. 2012- 2015.

Electrical Engineering/ Telecommunication

Ph.D. Thesis: Feature Extraction Using Limited Training Samples for Hyperspectral Images

**M.SC.:** Department of Electrical Engineering, Faculty of Engineering, Shahed University, Tehran, Iran, Sept. 2009-2011.

Electrical Engineering/ Telecommunication

M.SC. Thesis: MIMO-OFDM Channel Estimation Using Training Symbols.

**B.SC.:** Department of Electrical Engineering, Faculty of Engineering, Shahed University, Tehran, Iran, Sept. 2005-2009.

Electrical Engineering/ Telecommunication

B.SC. Thesis: MIMO-OFDM System Simulation and Investigation of Channel Parameters' Changes in System Performance

## Research Interests

- Pattern Recognition, Machine Learning, and Artificial Intelligence
- Signal and Image Processing
- Remote Sensing

## Honors and Awards

1. Ranked among the top 2% scientists in 2021-2024 according to Stanford University reports based on data from Scopus.
2. Top Ten Percent Achievements in 3rd KANS Scientific Competition, 2022.
3. Awarded “Dr. Taghi Ebtakar” Young Researcher Award, Center for Peace and Environment, Iran, March 2022.
4. Winner at “3<sup>rd</sup> National Festival of Women and Science, (Maryam Mirzakhani Award)”, Dec. 2020.
5. Publons' global Peer Review Awards 2018 for placing in the top 1% of reviewers in Geosciences, September 2018.
6. Awarded "Dr. Kazemi Ashtiani" Research Grant Award for Young Assistant Professor, Iran's National Elite Foundation, 2018.
7. Awarded “Shahid Chamran Scientific Award for Postdoc Researchers”, Iran's National Elite Foundation, 2016.
8. The second-place recipient of the 2016 ERDAS Award for Best Scientific Paper in Remote Sensing from “American Society for Photogrammetry and Remote Sensing”, April 2016.
9. Top postdoctoral researcher, Tarbiat Modares University, 2016.
10. Best Ph.D. Thesis Award from the IEEE Iran Section, 3 May 2017.
11. Best Ph.D. Thesis Award, Tarbiat Modares University, 2015.
12. Ranked first among Ph.D. graduates of Communication in Electrical and Computer engineering Department, Tarbiat Modares University, Tehran, Iran, Sep. 2015.
13. Awarded Member of Iran's National Elite Foundation, 2015-until now.

## Teaching Experience

- Deep learning in signal processing, Tarbiat Modares University, from fall 2023 until now.
- Statistical Pattern Recognition, Tarbiat Modares University, from fall 2018 until now.
- Fuzzy Systems, Tarbiat Modares University, from winter 2018 to winter 2021.
- Stochastic Processes, from fall 2021 to fall 2022.
- Wireless communication, from winter 2021 to winter 2022.

## **Membership in Societies**

1. IEEE Senior member-From Feb. 2022 to now
2. Student Branch Counselor of the IEEE with Tarbiat Modares University, Jan. 2022-Jan. 2024
3. IEEE member of Geoscience and Remote Sensing Society (GRSS)-From 2020 to now
4. IEEE member of Women in Engineering-From 2020 to now
5. IEEE member of Young Professionals-From 2017 to now
6. IEEE member-From 2017 to now
7. Member of Iranian Society of Smart Grid-From 2018 to 2021

## **Reviewer of Journals**

1. IEEE Transactions on Geoscience and Remote Sensing (TGRS)
2. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS)
3. IEEE Transactions on Cybernetics
4. IEEE Systems Journal
5. IEEE Transactions on Neural Networks and Learning Systems (IEEE TNNLS)
6. IEEE Transactions on Power Systems
7. IEEE Geoscience and Remote Sensing Magazine (GRSM)
8. IEEE Geoscience and Remote Sensing Letters
9. IEEE Transactions on Image Processing
10. IEEE Transactions on Multimedia
11. IEEE Access
12. IEEE Sensors Journal
13. Proceedings of the IEEE
14. IET image processing
15. Information Fusion
16. Pattern Recognition
17. Neurocomputing
18. ISPRS Journal of Photogrammetry and Remote Sensing
19. International Journal of Remote Sensing
20. Remote Sensing Letters
21. European Journal of Remote Sensing
22. Remote Sensing
23. Geocarto International
24. Applied & Experimental Mathematics
25. Journal of Visual Communication and Image Representation
26. Scientific Reports
27. Infrared Physics and Technology
28. Digital Signal Processing

29. Journal of Computational and Graphical Statistics
30. International Journal of Image and Data Fusion
31. Chemometrics and Intelligent Laboratory Systems
32. Heliyon
33. Sensors
34. Electronics
35. Earth Science Informatics
36. Chemosphere
37. Biomedical Signal Processing and Control
38. Expert Systems with Applications
39. Pattern Recognition Letters
40. Signal, Image and Video Processing
41. Applied Soft Computing Journal
42. Engineering Applications of Artificial Intelligence
43. Artificial Intelligence Review
44. Computers and Electrical Engineering
45. AUT Journal of Modeling and Simulation
46. The ISC International Journal of Information Security (ISeCure)
47. Journal of AI and Data Mining (JADM)
48. Iranian Journal of Science and Technology, Transactions of Electrical Engineering
49. Signal and Data Processing (Printed in Persian)
50. Journal of Machine Vision and Image Processing (Printed in Persian)
51. Journal of Space Science & Technology (Printed in Persian)
52. Scientific Journal of Computational Intelligence in Electrical Engineering (Printed in Persian)
53. Electronics Industries (Printed in Persian)

## **Publications- Books**

Imani, Maryam, Statistical Pattern Recognition Fundamentals and Methods (Printed in Persian), Tarbiat Modares University, Tehran, Iran, 2024.

## **Publications- Journal papers**

[115] Maryam Imani, Daniele Cerra, Triple Graph Convolutional Network for Hyperspectral Image Feature Fusion and Classification, *Remote Sensing*, vol. 17, no. 9, 1623, 2025.

[114] Maryam Imani, Attention Based Multi-Level and Multi-Scale Convolutional Network for PolSAR Image Classification, *Advances in Space Research*, vol. 75, no. 11, pp. 7971-7986, June 2025.

[113] Maryam Imani, Daniele Cerra, Phase Space Deep Neural Network with Saliency-Based Attention for Hyperspectral Target Detection, *Advances in Space Research*, vol. 75, no. 4, pp. 3565-3588, Feb. 2025.

[112] Hosein Eskandari, Maryam Imani, Mohsen Parsa Moghaddam, A Deep Residual Network Integrating Entropy-Based Wavelet Packet Ensemble Model for Short-Term Electrical Load Forecasting, *Energy*, vol. 314, 134168, 2025.

[111] Maryam Imani and Samsung Lim, An Eigenvalue Decomposition-Based Gabor Network for Polarimetric Synthetic Aperture Radar Image Classification, *Earth Science Informatics*, vol. 18, no. 83, 2025.

[110] Maryam Imani, Discriminant Analysis-Based Attention Network for Hyperspectral Target Detection, *Optics and Laser Technology*, vol. 182, Part B, 112208, April 2025.

[109] Maryam Imani, Attention Based Network for Fusion of Polarimetric and Contextual Features for Polarimetric Synthetic Aperture Radar Image Classification, *Engineering Applications of Artificial Intelligence*, vol. 139, Part B, 109665, Jan. 2025.

[108] Maryam Imani, Generative adversarial network based data augmentation for hyperspectral images target detection using convolutional neural networks (Printed in Persian), *Journal of Machine Vision and Image Processing (journal of Iranian society of machine vision and image processing)*, vol. 11, no. 2, pp. 13-24, Dec. 2024.

[107] Maryam Imani, Hassan Ghassemian, A Three-Branch Deep Neural Network for Diagnosing Respiratory Sounds, *Neural Computing and Applications*, vol. 36, no. 35, pp. 22611–22631, 2024.

[106] Maryam Imani, Collaborative Representation Based Unsupervised CNN for Hyperspectral Anomaly Detection, *Infrared Physics and Technology*, vol. 141, 105498, Sept. 2024.

[105] Zabihollah Haghiabi, Nader Mokari, Bijan Abbasi Arand, and Maryam Imani, Building Detection in SAR Images Based on Fusion of Classic and Deep Learning Features, *International Journal of Remote Sensing*, vol. 45, no. 11, pp. 3577–3596, 2024.

- [104] Ahmadreza Salehi, Maryam Imani, Amir Zaimbashi, and Halim Yanikomeroglu, Learning and Model-Based Approaches for Radar Target Detection, *IEEE Transactions on Cognitive Communications and Networking*, vol. 10, no. 5, pp. 1817-1830, Oct 2024.
- [103] Mohamad Ebrahim Aghili, Maryam Imani, Hassan Ghassemian, Segment-Driven Anomaly Detection in Hyperspectral Data using Watershed Technique, *The Egyptian Journal of Remote Sensing and Space Sciences*, vol. 27, no. 2, pp. 288-297, June 2024.
- [102] Shiva Aghapour Maleki, Hassan Ghassemian, Maryam Imani, Nonreference object-based pansharpening quality assessment, *The Egyptian Journal of Remote Sensing and Space Sciences*, vol. 27, no.2, pp. 227–241, 2024.
- [101] Maryam Imani, Amin Zehtabian, Attention Based Morphological Guided Deep Learning Network for Neuron Segmentation in Electron Microscopy, *The Journal of Supercomputing*, vol. 80, pp. 14272–14294, 2024.
- [100] Fateme Amjadipour, Maryam Imani, Hassan Ghassemian, Morphological and Statistical Filter-Based Multi-Direction Building Detection for SAR Images, *Journal of Applied Research in Electrical Engineering*, vol. 2, no. 2, pp. 95-101, 2023.
- [99] Maryam Imani, A Shaped Collaborative Representation-Based Detector for Hyperspectral Anomaly Detection, *Remote Sensing Letters*, vol. 14, no. 11, pp. 1162-1172, 2023.
- [98] Maryam Imani, Modified PCA, LDA and LPP Feature Extraction Methods for PolSAR Image Classification, *Multimedia Tools and Applications*, vol. 83, pp. 41171–41192, 2024.
- [97] Maryam Imani, Alzheimer’s Diseases Diagnosis Using Fusion of High Informative BiLSTM and CNN Features of EEG Signal, *Biomedical Signal Processing and Control*, vol. 86, Part C, 105298, Sept. 2023.
- [96] Maryam Imani, An Iterative PolSAR Image Classification Method With Utilizing Scattering and Contextual Information, *Multimedia Tools and Applications*, vol. 83, no. 6, pp. 16605–16621, 2024.
- [95] Mohamad Ebrahim Aghili, Maryam Imani, Hassan Ghassemian, Clustering Based Background Learning for Hyperspectral Anomaly Detection, *The Egyptian Journal of Remote Sensing and Space Sciences*, vol. 26, no. 3, pp. 477–487, 2023.
- [94] Maryam Imani, Adaptive Window Based Collaborative Representation for Hyperspectral Anomaly Detection with Fusion of Local and Global Information, *The Egyptian Journal of Remote Sensing and Space Sciences*, vol. 26, no. 2, pp. 369–380, 2023.

[93] Hosein Eskandari, Maryam Imani, Mohsen Parsa Moghaddam, Best-tree wavelet packet transform bidirectional GRU for short-term load forecasting, *The Journal of Supercomputing*, vol. 79, pp. 13545–13577, 2023.

[92] Beheshteh Khosravi, Maryam Imani, Hassan Ghassemian, Shaped Patch Based Nonparametric Discriminant Analysis for Hyperspectral Image Classification through the CNN Model, *International Journal of Remote Sensing*, vol. 44, no. 6, pp. 1789–1819, 2023.

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[88] Maryam Imani, Entropy/Anisotropy/Alpha Based 3DGabor Filter Bank for PolSAR Image Classification, *Geocarto International*, vol. 37, no. 27, pp. 18491–18519, 2022.

[87] Roohollah Keshvari, Maryam Imani, Mohsen Parsa Moghaddam, Short Term Load Forecasting Using Empirical Mode Decomposition, Wavelet Transform and Support Vector Regression, *Signal and Data Processing*, vol. 19, no. 3, pp. 35-48, 2022 (Printed in Persian).

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[85] Maryam Imani, Scattering and Contextual Features Fusion Using a Complex Multi-Scale Decomposition for Polarimetric SAR Image Classification, *Geocarto International*, vol. 37, no. 27, pp. 17216–17241 2022.

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- [67] Hosein Eskandari, Maryam Imani, Mohsen Parsa Moghaddam, Short-Term Load Forecasting By Learning Load Characteristics Using Deep Convolutional and Recurrent Networks, Electronics Industries, vol. 12, no. 2, pp. 35-46, 2021 (Printed in Persian).
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- [65] Maryam Imani, Automatic Diagnosis of Coronavirus (COVID-19) Using Shape and Texture Characteristics Extracted From X-Ray and CT-Scan Images, Biomedical Signal Processing and Control, vol. 68, 102602, 2021.
- [64] Maryam Imani, Electrical Load-Temperature CNN for Residential Load Forecasting, Energy, vol. 227, 2021.
- [63] Hosein Eskandari, Maryam Imani, Mohsen Parsa Moghaddam, Convolutional and Recurrent Neural network Based Model for Short-Term Load Forecasting, Electric Power Systems Research, vol. 195, 2021.
- [62] Maryam Imani, A Random Patches Based Edge Preserving Network for Land Cover Classification Using Polarimetric Synthetic Aperture Radar Images, International Journal of Remote Sensing, vol. 42, no. 13, pp. 4946–4964, 2021.
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- [58] Maryam Imani, Customer Churn Prediction in Telecommunication Using Machine Learning: A Comparison Study, *AUT Journal of Modeling and Simulation (Amirkabir International Journal of Modeling, Identification, Simulation & Control)*, vol. 52, no. 2, pp. 229-250, 2020.
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[18] Maryam Imani, Hassan Ghassemian, Binary coding based feature extraction in remote sensing high dimensional data, *Information Sciences*, vol. 342, pp. 191-208, 2016, doi:10.1016/j.ins.2016.01.032.

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## **Thesis supervision**

### **M.Sc. Supervised**

1. Abolfazl Saheban Maleki, Object Detection with Neural Networks by Considering Presence of Imbalance During Network Training, M.S. Thesis, Tarbiat Modares University (2024).
2. Ehsan Bahmanabady, Fusion of Contextual Information from Face Images for Emotion Recognition, M.S. Thesis, Tarbiat Modares University (2024).
3. Mahnaz Siahpoosh, Ovarian tumor segmentation using deep learning, M.S. Thesis, Tarbiat Modares University (2023).
4. Kosar Amiri, Hyperspectral Image Classification using Spectral Vector Analysis and Information Fusion with Spatial Features, M.S. Thesis, Tarbiat Modares University (2023).
5. Reza Ghorban Meyabadi, Deep learning for target detection in remote sensing images with high dimensionality, M.S. Thesis, Tarbiat Modares University (2023).
6. Abbas Kakoolvand, Unsupervised Change Detection in SAR Images Using Statistical Algorithms and Deep Learning, M.S. Thesis, Tarbiat Modares University (2022).
7. Amirhosein Ghazvinizadeh, Polarimetric SAR Image Classification Using Spatial and Scattering Features Extraction with Limited Training Samples, M.S. Thesis, Tarbiat Modares University (2022).
8. Hamidreza Mousavi, Polartimetric Synthetic Aperture Radar Image Classification based on Deep Learning, M.S. Thesis, Tarbiat Modares University (2021).
9. Amir Reza Rezvani, Hyperspectral anomaly detection using deep neural networks, M.S. Thesis, Tarbiat Modares University (2020).
10. Rohallah Keshvari, Electricity demand prediction based on decomposition and processing of electrical load time series, M.S. Thesis, Tarbiat Modares University (2020).
11. Hosein Eskandari, Short-term electrical load forecasting using deep learning, M.S. Thesis, Tarbiat Modares University (2020).

### **Ph.D. Advised**

1. Shiva Aghapour Maleki, Object-Based Method for Quality Assessment of Pan-sharpened Satellite Imagery, Ph.D. Thesis, Tarbiat Modares University (2022).

2. Ali Farajzadeh, Super-resolution of Hyperspectral images with nonsubsampling contourlet transform and sparsity regularization, Ph.D. Thesis, Zanzan University (2022).

### **M.Sc. Advised**

1. Mehdi Ariaei, Unsupervised Classification of WorldView-3 Images by Feature Fusion and Deep Learning, M.S. Thesis, Tarbiat Modares University (2024).
2. Mohammadreza Davoudvandi, Designing a Low-cost IoT System for Recognition of Person's Symbolic States in the Scene, M.S. Thesis, Tarbiat Modares University (2024).
3. Poya Seyedghaseme, PCG classification using Shapelet transform and time series and fractal dimensions, M.S. Thesis, Tarbiat Modares University (2024).
4. Shirin Moshtahi, Decentralized renewable energy generation forecasting: A case study of photovoltaics, M.S. Thesis, Tarbiat Modares University (2024).
5. Alireza Dori, Design Gabor Based CNN Inspired By Human Vision System For Classification of Remote Sensing Images With Limited Training Samples, M.S. Thesis, Tarbiat Modares University (2023).
6. Amir Latifi, Feature Extraction Inspired by the Human Auditory System for Intelligent Analysis and Classification of Lung and Heart Sounds with Limited Training Samples, M.S. Thesis, Tarbiat Modares University (2023).
7. Mohammad Hossein Alizadeh, Designing Demand Response Programs Based on Big Data Analytics: A Machine Learning Approach, M.S. Thesis, Tarbiat Modares University (2023).
8. Fariba Dehghan, Forecasting of Renewable Resources Power Production Using Deep Learning: A Case Study of Photovoltaic and Wind, M.S. Thesis, Tarbiat Modares University (2022).
9. Mohamad Ebrahim Aghili, Spectral-Spatial Feature Fusion by Designing Deep Networks CNN for Classification of Iran's Remotely Sensed Images, M.S. Thesis, Tarbiat Modares University (2022).
10. Hossein Rahmati, Heart Abnormality Classification Using Phonocardiogram Feature Extraction and Decision Fusion (using deep neural networks), M.S. Thesis, Tarbiat Modares University (2021).
11. Yeganeh Nozari, Decision Level Fusion of Panchromatic and Multispectral Information Classification, M.S. Thesis, Tarbiat Modares University (2021).
12. Zahra Farmahini Farahani, Feature Level Fusion of PAN-Contextual Information and MS-Spectral Information, M.S. Thesis, Tarbiat Modares University (2021).
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15. Fateme Rezaei, Panchromatic and Multispectral Image Fusion Based on Injection Coefficients, Tarbiat Modares University (2019).
16. Zahra Rostami, spectral-spatial Classification of Remote Sensing Images using morphological Information, M.S. Thesis, Tarbiat Modares University (2019).
17. Hamid Shirian Hosseinabadi, Hyperspectral Image Spectral Spatial Feature Fusion using Gabor Filter in CNN, M.S. Thesis, Tarbiat Modares University (2019).
18. Mansoureh Aghaei, Hyperspectral Classification Using Convolutional Neural Network and Support Vector Machine, M.S. Thesis, Tarbiat Modares University (2019).
19. Ahmad Taheri, Use of Spectral-Spatial Features Extracted from 3D Gabor Filters to Classify Hyperspectral Images, M.S. Thesis, Tarbiat Modares University (2018).
20. Mohammad Ghassemi, Spectral-Spatial Information Extraction of Hyperspectral Images Using Deep Learning, M.S. Thesis, Tarbiat Modares University (2018).
21. Mohammad Dowlatshah, Classification of Remote Sensing Images using spatial-spectral Morphological Information, M.S. Thesis, Tarbiat Modares University (2018).
22. Mohsen Darvishnezhad, Fusion of spectral and spatial information for hyperspectral image classification using local graph, M.S. Thesis, Tarbiat Modares University (2018).
23. Behzad Zehtabian, Classification of Hyperspectral Images Using Spectral-Spatial Information Analysis, M.S. Thesis, Tarbiat Modares University (2018).
24. Maryam Hamidi, Feature Extraction for Classification of Heart Sound Abnormalities, M.S. Thesis, Tarbiat Modares University (2016).

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