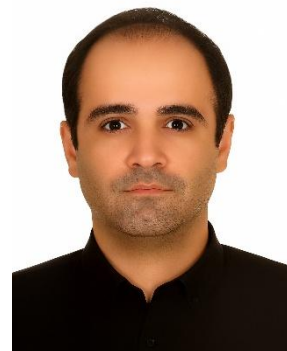# Milad
Jafari Barani

Personal Information

Address: No.12, 6th floor, 2nd Sadaf Building, Matin Street, Roudaki Blvd, Urmia, Iran
Email: Milad.jafare@gmail.com
Mobile: +98 (914) 149-47-27

➢ Google Scholar: https://scholar.google.com/citations?user=HFVAy78AAAAJ&hl=en **(h-index: 14, i-index:15)**
➢ LinkedIn: https://www.linkedin.com/in/milad-jafari-barani-5612a4a0/
➢ Orcid: https://orcid.org/0000-0002-9631-9889
➢ ResearchGate: https://www.researchgate.net/profile/Milad-Jafari-Barani
➢ GitHub: https://github.com/MiladBarani

Education

❖ Doctoral Student | Oviedo University | Spain   2025-Now
❖ Master of Science in Artificial Intelligence   2012-2014
   Azad University, Qazvin Branch (MRL), Qazvin, Iran
   ▪ GPA: 16.51/20
   ▪ Thesis Topic: Image Forgery Detection in Contourlet Transform Domain Based on 2-D Cellular Automata,
   ▪ Thesis grade: 18.5 / 20
   ▪ Under the Supervision of Dr. Amir Masoud Eftekhri Moghadam(eftekhari@qiau.ac.ir)
❖ Bachelor of Science in Software Engineering, Azad University,   2009-2012
   Urmia Branch, Urmia, Iran
   ▪ GPA: 16.54/20
❖ Associate Degree in Computer Science, Azad University,   2004 – 2006
   Shabestar Branch, Shabestar, Iran
   ▪ GPA: 16.49/20

Courses and Relevant Coursework

❖ Statistical Pattern Recognition: 17/20
❖ Digital Image Processing: 19.25/20
❖ Natural language Processing: 16.5/20

- ❖ Data Mining: 16.25/20
- ❖ Software Engineering: 18/20
- ❖ Algorithms: 15/20

Research Interests

- ❖ Machine Learning
- ❖ Image Processing
- ❖ Image authentication
- ❖ Data Science
- ❖ Cybersecurity
- ❖ Data hiding and security
- ❖ Chaos theory and non-linear dynamics

Work and Teaching Experiences

- ❖ Teaching at Urmia Azad University computer engineering course: 2014 - 2016
  - o C++, Web technology, Data structure.
- ❖ Teaching at Ghazi Tabatabayi Vocational Technical University: 2015 – 2021
  - o Local Area Network Configuration (Lab), Web Programming.
- ❖ Teaching at Applied Sciences University of Urmia, Iran: 2014 – NOW
  - o Artificial intelligence, C++, Object Oriented, Web Programming, Data Base
- ❖ Teaching at Kamal University of Urmia, Iran: 2014 - 2021
  - o C++, Web programming, AI, Object Oriented Programming, Data Base
- ❖ Supervisor of undergraduate student project at Ghazi Tabatabayi 2014 – 2019
  Vocational Technical University and Applied Sciences University
  of Urmia in the field of IOT And web programming.
- ❖ Django API developer in Pendar Rayaneh Shams company, Urmia, Iran 2019- 2020
- ❖ Working three years in Bir-robotic company as 2020-2023
  - o Project manager (IoT and sensor network and Intelligent Agents),
  - o Researcher,
- ❖ Working as network expert and AI consultant in 2023-2025
  Hastiya Pardaz Bakhtar company Urmia.
- ❖ Doctoral researcher | TUAI project| Oviedo University, Spain 2025-NOW

Research Experience

- ❖ Worked in the ElectroHive Company's laboratory Urmia, Iran as Researcher and Project Manager (2020-2025).
  - o Developing a new technique for key stroke dynamic and continues authentication on BEHACOM dataset
  - o Research on Transformer Networks in order to Detection of Alzheimer diseases prediction based on visual data (CT and MRI images).
  - o Research on processing Scanning Tunneling Microscopy (STM) images to analyze molecules.

- ❖ Worked in the MIR (Machine Intelligence and Robotic) laboratory of Urmia Azad University, Iran as an Image analyzer and research assistant. (2012-2019)
  - o Research and development of a new algorithm for image authentication in the frequency domain.
  - o Develop a new steganography algorithm for data hiding and secure communication.
  - o Research assistant in Brest cancer detection on chest X-ray images using Fractals.
  - o Worked on Data mining and machine learning algorithms for web content.
  - o Investigate frequency domain for developing a new watermarking algorithm for digital videos.
  - o Modified Particle swam Optimization algorithm and used Chaos theory to optimize the output results.

Technical Skills

- ❖ Machine Learning:
  - ▪ Supervised Learning: Linear Regression, Gradient descent, Logistic Regression, Neural Networks, SVM, K-Nearest Neighbors, Decision Tree, Random Forest
  - ▪ Unsupervised learning: K-means, DBScan, PCA, HCA, LLE
  - ▪ Reinforcement learning
  - ▪ Deep Learning
  - ▪ Transformer Models
- ❖ Software:
  - ▪ LATEX, Microsoft Office, Adobe Photoshop, Google Sketch up.
- ❖ Programming:
  - ▪ Python:
    - o NumPy, Pandas, Torch, Matplotlib, TensorFlow
  - ▪ OpenCV
  - ▪ MATLAB
- ❖ Languages:
  - ▪ Persian, English, Azari, Turkish.

Publications

- ❖ Journal Papers:
  - o Valandar MY, Ayubi P, Barani MJ, Irani BY. A chaotic video steganography technique for carrying different types of secret messages. Journal of Information Security and Applications. 2022 May 1;66:103160.
  - o Ayubi, P., Barani, M. J., Valandar, M. Y., Irani, B. Y., & Sadigh, R. S. M. (2021). A new chaotic complex map for robust video watermarking. *Artificial Intelligence Review*, *54*(2), 1237-1280.
  - o Barani, M. J., Ayubi, P., Valandar, M. Y., & Irani, B. Y. (2020). A new Pseudo random number generator based on generalized Newton complex map with dynamic key. *Journal of Information Security and Applications*, *53*, 102509.
  - o Barani, M. J., Ayubi, P., Valandar, M. Y., & Irani, B. Y. (2020). A blind video watermarking algorithm robust to lossy video compression attacks based on generalized Newton complex map and contourlet transform. *Multimedia Tools and Applications*, *79*(3), 2127-2159.
  - o Valandar, M. Y., Barani, M. J., & Ayubi, P. (2020). A blind and robust color images watermarking method based on block transform and secured by modified 3-dimensional Hénon map. *Soft Computing*, *24*(2), 771-794.
  - o Valandar, M. Y., Barani, M. J., Ayubi, P., & Aghazadeh, M. (2019). An integer wavelet transform image steganography method based on 3D sine chaotic map. *Multimedia Tools and Applications*, *78*(8), 9971-9989.
  - o Irani, B. Y., Ayubi, P., Jabalkandi, F. A., Valandar, M. Y., & Barani, M. J. (2019). Digital image scrambling based on a new one-dimensional coupled Sine map. *Nonlinear Dynamics*, *97*(4), 2693-2721.
  - o Valandar, M. Y., Barani, M. J., & Ayubi, P. (2019). A fast color image encryption technique based on three dimensional chaotic map. *Optik*, *193*, 162921.
  - o Barani, M. J., Valandar, M. Y., & Ayubi, P. (2019). A new digital image tamper detection algorithm based on integer wavelet transform and secured by encrypted authentication sequence with 3D quantum map. *Optik*, *187*, 205-222.
  - o Valandar, M. Y., Ayubi, P., & Barani, M. J. (2017). A new transform domain steganography based on modified logistic chaotic map for color images. *Journal of Information Security and Applications*, *34*, 142-151.
  - o Jalili, F., & Barani, M. J. (2016). Speech recognition using combined fuzzy and ant colony algorithm. *International Journal of Electrical and Computer Engineering*, *6*(5), 2205.

  - o Barani, M. J., Ayubi, P., Jalili, F., Valandar, M. Y., & Azariyun, E. (2015). Image forgery detection in contourlet transform domain based on new chaotic cellular automata. *Security and Communication Networks*, *8*(18), 4343-4361.
  - o Barani, M. J., Faez, K., & Jalili, F. (2014). Implementation of gabor filters combined with binary features for gender recognition. *International Journal of Electrical and Computer Engineering (IJECE)*, *4*(1), 108-115.

- ❖ Conference Papers:
  - o Barani, M. J., Valandar, M. Y., & Ayubi, P. (2015, May). A secure watermark embedding approach based on chaotic map for image tamper detection. In

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2015 7th Conference on information and knowledge technology (IKT) (pp. 1-5). IEEE.

o   Valandar, M. Y., Ayubi, P., & Barani, M. J. (2015, May). High secure digital image steganography based on 3D chaotic map. In *2015 7th Conference on information and knowledge technology (IKT)* (pp. 1-6). IEEE.

o   Barani, M. J., Ayubi, P., & Hadi, R. M. (2014, February). Improved particle swarm optimization based on chaotic cellular automata. In *2014 Iranian Conference on Intelligent Systems (ICIS)* (pp. 1-6). IEEE.

Sports and Hobbies

❖   Mountain climbing
❖   Volleyball
❖   Reading
❖   Photography