

Zahra Golrizkhatami

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Areas of Research:

My research interests lie in the fields of Artificial Intelligence, Machine Learning and Pattern Recognition. As a machine-learning researcher, my research focuses on the areas of biomedical signal and image processing, in particular heartbeat arrhythmia detection using Electrocardiogram (ECG) signals, which was the core of my doctoral thesis. I have worked extensively on this topic and proposed several conventional machine-learning-based techniques and deep learning approaches in this research area. In addition, I have developed several deep learning models for various problems, such as Breast Cancer Histopathology Image Classification and Animal Face Classification.

Educations:

- **Ph.D.** (2015-2019): Computer Engineering, Eastern Mediterranean University, Famagusta, North Cyprus.
 - Thesis Title: Deep Learning Approaches for ECG Classification
- **MSc.** (2013-2015): Computer Engineering, Eastern Mediterranean University, Famagusta, North Cyprus.
 - Thesis Title: Classification of ECG signal by using Wavelet transform and SVM
- **BSc.** (2008-2012): Software Engineering, Azad University, Iran.
 - Graduation Project: Design and Implement Educational Software for Elementary Schools

Academic Experiences:

- Assistant Professor in Computer Engineering Department at Antalya Bilim University, Antalya, Turkey (2024 - Present)
- Senior Instructor in Online Education system (2022–Present)
- Senior Instructor (Ph.D.) in Computer Engineering Department at Antalya Bilim University, Antalya, Turkey (2019 – 2022)
- Graduate Research Assistant in Computer Engineering Department at Eastern Mediterranean University, North Cyprus(2014 - 2019)
- ABET committee member, Computer Engineering department, Eastern Mediterranean University, North Cyprus (2015 - 2019)
- Laboratory instructor for the following courses at Eastern Mediterranean University:

- Part-time teaching assistant in Computer Engineering Department at Eastern Mediterranean University, North Cyprus (2013- 2014)
- Teaching ICDL, fundamental of programming languages(C, C++) and Photoshop in private computer institute, Shiraz, Iran (2010- 2012).

Honors and Awards:

- Awarded EMU 100% Postgraduate Scholarship for Ph.D. study.
- Awarded EMU 50% Postgraduate Scholarship for Master study.
- Ranked 2214th among more than 250,000 applicants for Iranian National Universities Undergraduate Entrance Exam.

Publications:

- S. Taheri, Z. Golrizkhatami, A. A. Basabrain and M. S. Hazzazi, (2024), "A Comprehensive Study on Classification of Breast Cancer Histopathological Images: Binary Versus Multi-Category and Magnification-Specific versus Magnification-Independent", IEEE Access, vol. 12, pp. 50431-50443, DOI: 10.1109/ACCESS.2024.3386355.
- Sivri, M., Taheri, S., Ercan, R., and Golrizkhatami, Z, (2024), "Dental age estimation: A comparative study of convolutional neural network and Demirjian's method", Journal of Forensic and Legal Medicine, 103, 102679.
- Shahram Taheri and Zahra Golrizkhatami, (2023), Magnification-Specific and Magnification-Independent Classification of Breast Cancer Histopathological Image using Deep Learning Approaches, Signal Image and Video Processing. DOI: 10.1007/s11760-022-02263-7.
- Zahra Golrizkhatami and Adnan Acan, ECG Classification Using Three-Level Fusion of Handcrafted and Multi-stage Learned Features, (2018), Expert Systems with Applications. Volume 114, Pages 54-64.
- Zahra Golrizkhatami, Shahram Taheri and Adnan Acan, (2018), Multi-scale features for heartbeat classification using directed acyclic graph CNN, Applied Artificial Intelligence, Volume 32, Issue: 7-8, Pages 613-628. DOI: 10.1080/08839514.2018.1501910.
- Shahram Taheri, Zahra Golrizkhatami and Onsen Toygar, Classification of Animal Faces Using a Novel DAG-CNN Architecture, International Conference on Advanced Engineering, Technology and Applications (ICAETA-2021), Istanbul, Turkey.
- Zahra Golrizkhatami, Havva Kilic, Deep Learning Approaches for Skin Cancer Classification. Izmir International Conference on Technology and Social Sciences

(IICTSS 2022), Izmir, Turkey.

- Zahra Golrizkhatami, M.H. Eghbali, Combining Genetic Algorithm and Kmeans Clustering Algorithm to Optimize Clusters, Second National Conference on New Approaches in Electrical and Computer Engineering, Khorramabad, Islamic Azad University, 2016.
- Zahra Golrizkhatami, M.H. Eghbali, A New Approach for Classifying Thyroid Gland Cancer from Sonogram Images, Conference on Signal Processing and Intelligent Systems, Amir Kabir university, Tehran, Iran, 2015.

Computer Skills:

- Programming Languages: Python, C, C++, Java, JavaScript, Matlab.
- Deep Learning Platforms (Tensorflow, Keras, Pytorch).
- Biomedical Image Analysis Tools: Apeer, 3D Slicer.
- Full Stack Development: Node.js, Express.js, MongoDB, HTML, CSS, React.js, Bootstrap.
- Industrial Software: Quartus II, Proteus (ISIS), Max-Plus II, QtSpim.