

Contact information

Address:

International Iberian Nanotechnology Laboratory (INL)
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Braga – Portugal

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Educational and Professional Experience

Nov 2020 – Now Research Engineer	Technology Engineering Group, <u>International Iberian Nanotechnology Laboratory (INL)</u> , Braga, Portugal Supervisor: Prof. Paulo Freitas
2017 Visitor (6 month)	Instituto de Microelectrónica de Sevilla (IMSE-CNM), Spain Supervisor: Prof. Bernabé Linares-Barranco
2014 - Now	Member of <u>National Elites Foundation of Iran</u>
2014 - 2020 Ph.D.	<u>Dept. of Electrical Engineering., Sharif University of Technology</u> , Tehran, Iran Supervisor: Prof. Saeed Bagheri Shouraki GPA: 19.02 / 20
2010 - 2013 M.Sc.	<u>Dept. of Electrical Engineering., Amirkabir University of Technology</u> , Tehran, Iran Supervisor: Prof. Ahmad Motamedi GPA: 17.33 / 20
2006 - 2010 B.Sc.	<u>Faculty of Engineering, Shahed University</u> , Tehran, Iran Supervisor: Dr. Alireza Behrad GPA: 17.88 / 20 Rank 1
2002 - 2006 Diploma	Farzanegan High School - National Organization for Development of Exceptional Talents (NODET), Babol, Iran GPA: 19.74 / 20 Rank 1

Skills

Main Skills:

- Expert in artificial neural networks, spiking neural networks, recurrent neural networks and convolutional neural networks.
- Expert in machine learning, fuzzy systems and evolutionary algorithms.
- Expert in image processing and advanced 3D machine vision.
- Expert in digital electronic systems.
- High experience in advanced computer architecture and FPGA implementation.
- High experience in parallel processing using GPU.
- Very good English communication skills.

Software Engineering Skills:

- Proficiency in **MATLAB**
- Programming in **Python** for machine learning and familiar with **TensorFlow**
- Proficiency in **Verilog** hardware description language
- Programming in **C++** language and have good experience in **OpenCV** library for **image processing**
- Proficiency in **Modelsim, ISE** and **Vivado** software
- Programming in **CUDA C++**
- Proficiency in **Pspice, Proteous** and **Protel DXP** software
- High experience in **AVR chips** and Proficiency in **Codevision** software
- Proficiency in **Microsoft office** and **LATEX**

Courses

Section	Course Name	Grade (out of 20)
Ph.D.	Machine Learning	19.2
	Advanced Computer Architecture	19.2
	Very Compact Design of Digital Systems	19
	Fuzzy Systems	17.7
	Advanced 3-Dimensional Computer Vision	19
	Neural Modeling	20
M.Sc.	Statistical Pattern Recognition	19.25
	Artificial Neural Network	17
	Machine Vision	19
	Data Communication Network	19
B.Sc.	Image Processing	19
	Artificial Intelligence	18.5
	Digital Electronic	20
	Computer Architecture	19.88
	Microprocessor	19.5
	Electronic Physics	19.25
	Digital Circuits and Pulse	20
	Logic Circuits	18.6
Electronic III	18	

Academic Project

Ph.D.	Developing a Model for Learning in Spiking Neural Network Domain based on Unique Processing Operator (with Joint Capability of Spatiotemporal Coding)
M.Sc.	Car Tracking using Parallel Algorithms and Graphics Processing Unit
B.Sc.	Human Walking Motion and Speed Detection to Complete Virtual Reality Environment

Working Experience

Teaching Assistant

- Electrical Engineering Department, Sharif University of Technology
 - Artificial Neural Network
 - Fuzzy systems
 - Computer Architecture
 - Digital Circuits and Pulse
- Computer Engineering Department, Amirkabir University of Technology
 - Statistical Pattern Recognition
- Department of Mathematics and Computer Science, Amirkabir University of Technology
 - Mathematics1

Master of Educational Laboratory

- Logical Circuits - Electrical Engineering Department, Amirkabir University of Technology
- Electrical Circuit - Babol University of Science and Technology
- Computer Architecture - Babol University of Science and Technology

Other Activities

- Matlab & Pspice workshop – Alzahra university
- Electronic and AVR workshop – Shahed University Robotic Group
- Collaborate on the project of non-destructive digital scanner

Publications

- 1) **E. Iranmehr**, S. B. Shouraki, M. M. Faraji, N. Bagheri, and B. Linares-Barranco, “Bio-Inspired Evolutionary Model of Spiking Neural Networks in Ionic Liquid Space,” *Front. Neurosci.*, vol. 13, p. 1085, 2019.
- 2) **E. Iranmehr**, S. B. Shouraki, and M. M. Faraji, “ILS-based Reservoir Computing for Handwritten Digits Recognition,” in 2020 8th Iranian Joint Congress on Fuzzy and Intelligent Systems (CFIS), 2020.
- 3) **E. Iranmehr**, S. Bagheri Shouraki, and M.M. Faraji, “Developing a Learning Method based on Structural Plasticity for ILS-based Reservoir Network,” It is ready to submit.

- 4) M.M. Faraji, S. Bagheri Shouraki, **E. Iranmehr**, and B. Linares-Barranco, "Sound Source Localization in Wide-range Outdoor Environment Using Distributed Sensor Network," in IEEE Sensors Journal, vol. 20, no. 4, pp. 2234-2246, 15 Feb.15, 2020.
- 5) M.M. Faraji, S. Bagheri Shouraki, **E. Iranmehr**, and B. Linares-Barranco, "A Fuzzy TDOA Approach for Sound Source Localization Using a MEMS Microphone Array," It is ready to submit.
- 6) **E. Iranmehr**, B. V. Vahdat, M. M. Faraji, "FPGA Implementation of Character Recognition Using Spiking Neural Network," 7th Iranian Conference on Electrical & Electronics Engineering, 2015. Published in Majlesi Journal of Multimedia Processing Vol. 4, No. 2, 2015.
- 7) **E. Iranmehr**, S. Bagheri Shouraki, and M.M. Faraji, "Unsupervised Feature Selection for Phoneme Sound Classification using Particle Swarm Intelligence," 5th Iranian joint congress on Fuzzy and Intelligent systems (CFIS 2017).
- 8) **E. Iranmehr**, and Shohreh Kasaei, "An Efficient FPGA Implementation of DAISY Descriptor based on Pipeline and Multicycle Architectures," 3rd Conference on Electrical and Computer Engineering Technology (E-Tech 2017). Published in International Journal of Mechatronics, Electrical and Computer Technology (IJMEC), Volume 8, Issue 27, Pages 3690-3788 (Jan. 2018).
- 9) **E. Iranmehr**, S. B. Shouraki, and M. M. Faraji, "Fuzzy based Algorithm for Localizing Acoustic Source Using Microphone Array," 14th Iranian Conference on Fuzzy Systems, Sahand University of Technology, Tabriz, Iran, 2014.
- 10) **E. Iranmehr**, S. A. Motamedi and M. M. Faraji, "Implementation of Modular Neural Network based Algorithm on GPU for Persian License Plate Recognition," 6th Iranian Conference on Electrical & Electronics Engineering, 2014.
- 11) A. Behrad, **E. Iranmehr** and A. Diba, "A Novel Vision Based Approach for Navigation in 3D Virtual Reality Spaces," The 4th Conference on Information & Knowledge Technology (IKT 2012), 2012.
- 12) M. M. Faraji, S. B. Shouraki, and **E. Iranmehr**, "Spiking neural network for sound localization using microphone array," 23th Iranian Conference of Electrical Engineering, ICEE, 2015.
- 13) M. M. Faraji, A. H. Rezaei, and **E. Iranmehr**, "Real-time ML based Algorithm for Localizing Acoustic Source in WSN," 22th Iranian Conference of Electrical Engineering, ICEE, 2014.
- 14) M. M. Faraji, S. B. Shouraki, and **E. Iranmehr**, "Unsupervised Feature Selection for Phoneme Sound Classification using Genetic Algorithm," 3rd Conference on Electrical and Computer Engineering Technology (E-Tech 2017). Published in International Journal of Mechatronics, Electrical and Computer Technology (IJMEC), Volume 8, Issue 27, Pages 3753-3763 (Jan. 2018).
- 15) B. Ghojogh, S. B. Shouraki, H. Mohammadzade, and **E. Iranmehr**, "A Fusion-based Gender Recognition Method Using Facial Images," 26th Iranian Conference of Electrical Engineering, ICEE, 2018.

Hobbies

Traveling & Shopping
 Sport (Hiking, Cycling, Soccer & Kung fu)
 Watching Movies