

Contact

www.linkedin.com/in/shima-mehrvar (LinkedIn)

Top Skills

Image Processing
Medical Imaging
Machine Learning

Languages

English
Persian

Certifications

Deep Learning Specialization

Honors-Awards

Featured Graduate Student in
Graduate School Viewbook

Featured in UWM REPORT news:
"Grad students' research aims to
change our world"

Second place in IEEE Larry Huse
student poster competition

Chancellor's Graduate Student
Award

Second highest GPA in the class of
2007

Publications

Near-infrared spectroscopy muscle
oximetry of patients with postural
orthostatic tachycardia syndrome

Optical metabolic imaging of
irradiated rat heart exposed to
ischemia-reperfusion injury

Optical Metabolic Imaging for
Assessment of Radiation-Induced
Injury to Rat Kidney and Mitigation
by Lisinopril

Time-lapse microscopy of oxidative
stress demonstrates metabolic
sensitivity of retinal pericytes under
high glucose condition

Shima Mehrvar

Sr. Scientist, Deep Learning at AbbVie
Greater Chicago Area

Summary

I am a PhD in Electrical Engineering with more than 10 years of academic and industrial research experience in computer vision, machine learning, (bio)medical imaging, optical instrumentation, signal and image processing.

Experience

AbbVie

6 years 5 months

Sr. Scientist, Deep Learning

September 2021 - Present (5 years 1 month)

Postdoctoral Fellow in Deep Learning

May 2020 - September 2021 (1 year 5 months)

Illinois, United States

University of Wisconsin-Milwaukee

Research Assistant

January 2016 - May 2020 (4 years 5 months)

United States

- A novel instrument is designed, called fluorescence imager, as a diagnostic tool for diabetic wound healing in vivo. Hardware and software design, experimental protocol establishment, image processing algorithm design, and statistical and numerical analysis were performed in collaboration with College of Nursing, UWM.
- Various animal models of human injuries were investigated using optical cryo-imaging, and their metabolic redox state were quantified in collaboration with Medical College of Wisconsin. A new image processing approach is designed to segment regional heterogeneity of redox state in kidneys.
- A novel segmentation algorithm is designed to have 3D vascular network of organs. 3D image reconstruction, correction, and quantification algorithms are designed to analyze the effect of injuries.
- Using computer vision techniques, live cells and their mitochondrial compartment were segmented in time-lapse microscopy images, and

dynamics of cellular ROS (Reactive Oxygen Species) was quantified and modeled in ROS-mediated retinal injuries.

Pharmacology Branch, Islamic Azad University

Research Scientist

2013 - 2015 (2 years)

Tehran, Iran

- Providing in-silico analysis for predicting the effect of herbal extracts on bacteria.
- Designing a special constrained weight Neural Network using Genetic Algorithm.
- Finding an optimized training algorithm using Adaptive Differential Equation Algorithms.

Amirkabir University of Technology - Tehran Polytechnic

3 years

Teacher Assistant

2011 - 2014 (3 years)

Tehran, Iran

- Statistics and Random Systems, Artificial Neural Networks, Digital Signal Processing

Research Assistant

2011 - 2014 (3 years)

Tehran, Iran

- Machine learning algorithms: ANNs, SVM, PCA, K-means,
- Parallel processing to improve the performance of algorithms,
- Speech quality enhancement,
- Biological signal processing: ECG, EEG, Heart Beat Sounds,
- Optimizing structure of deep neural networks based on combining, constructing and pruning neurons for nonlinear dimension reduction of data, and
- Modeling human tendency via interactions between attractors in Neural Networks

Education

University of Wisconsin-Milwaukee

Doctor of Philosophy - PhD, Electrical Engineering (Minor: Biomedical Engineering) · (2016 - 2020)

Amirkabir University of Technology - Tehran Polytechnic
Master of Science - MS, Biomedical Engineering (Minor:
Bioelectronics) · (2011 - 2013)

Shahid Beheshti University
Bachelor of Science - BS, Electrical Engineering · (2007 - 2011)