

Curriculum Vitae

PERSONAL INFORMATION:



First Name: Gelareh

Last Name: Valizadeh

Gender: Female

Date/Place of Birth: 21 March 1986, Tehran

Nationality: Iranian

Resident of: Tehran

Marital Status: Married

Email addresses: gvalizadeh@gmail.com

EDUCATION:

- ❖ **Postdoc**, Tehran University of Medical Sciences, Tehran, Iran, Tehran, Iran, 2022-present.
- ❖ **Ph.D** in Medical Radiation Engineering, Science and Research Branch of the Islamic Azad University, Tehran, Iran, 2014- 2021.
- ❖ **M.Sc** in Medical Radiation Engineering, Science and Research Branch of the Islamic Azad University, Tehran, Iran, 2009- 2012.
- ❖ **B.Sc** in Medical Radiation Engineering, Science and Research Branch of the Islamic Azad University, Tehran, Iran, 2005- 2009.

RESEARCH PROJECTS:

- ❖ **Post-Doctoral Research:** The diagnostic value of DCE perfusion maps in differentiating benign and malignant breast lesions via machine learning: A radiomics analysis
- ❖ **Post-Doctoral Research:** Determination of the differentiation accuracy of various prostate regions in multi-parametric MRI.

- ❖ **Ph.D Thesis:** Modeling and analysis of the heart's left ventricle shape and motion over the cardiac cycle.
Supervisor: Dr. Farshid Babapour Mofrad, Advisor: Dr. Ahmad Shalbaf
- ❖ **M.Sc Thesis:** Mathematical Modeling and Simulation in order to Evaluation of the Nanoparticle Size in the Magnetic Drug Targeting System.
Supervisors: Dr. Mohamad Reza Oghabian & Dr. Mahmoud Shahabadi, Advisor: Dr. Majid Pouladian
- ❖ Design and fabrication of experimental setup to capture magnetic nanoparticles in a fluidic medium, M.A.Oghabian, F. Fatemi, G. Valizadeh, A.Fallahi, Research Center for Science and Technology in Medicine, Tehran University of Medical Sciences, 2010.
- ❖ Manufacture of an electromagnets array in order to evaluate a deep magnetic drug targeting system, M.A.Oghabian, G. Valizadeh, F. Fatemi, S. Hatami, Research Center for Science and Technology in Medicine, Tehran University of Medical Sciences, 2012.

PUBLICATIONS:

1. Valizadeh, Gelareh, and Farshid Babapour Mofrad. "Parametrized Pre-trained Network (PPNet): A Novel Shape Classification Method using SPHARMS for MI Detection." *Expert Systems with Applications* (2023): 120368.
2. Mofrad, Farshid Babapour, and Gelareh Valizadeh. "DenseNet-based transfer learning for LV shape Classification: Introducing a novel information fusion and data augmentation using statistical Shape/Color modeling." *Expert Systems with Applications* 213 (2023): 119261.
3. Mohammadian, Fatemeh, et al. "Quantitative Assessment of Resting-State Functional Connectivity MRI to Differentiate Amnesic Mild Cognitive Impairment, Late-Onset Alzheimer's Disease from Normal Subjects." *Journal of Magnetic Resonance Imaging* (2022).
4. Valizadeh, Gelareh, and Farshid Babapour Mofrad. "A Comprehensive Survey on Two and Three-Dimensional Fourier Shape Descriptors: Biomedical Applications." *Archives of Computational Methods in Engineering* (2022): 1-39.
5. Valizadeh, Gelareh, Farshid Babapour Mofrad, and Ahmad Shalbaf. "Parametric-based feature selection via spherical harmonic coefficients for the left ventricle myocardial infarction screening." *Medical & Biological Engineering & Computing* (2021): 1-23.
6. Valizadeh, Gelareh, Farshid Babapour Mofrad, and Ahmad Shalbaf. "Statistical Shape Modeling and Segmentation of the Left Ventricle Endocardium from CMR images based

- on Different Anatomical Landmark Alignments." *Iranian Journal of Biomedical Engineering* 14.4 (2021): 321-330.
7. Valizadeh, Gelareh, Farshid Babapour Mofrad, and Ahmad Shalbaf. "A Two-step Registration Approach: Application in MRI-based Strain Calculation of the Left Ventricle." *2020 27th National and 5th International Iranian Conference on Biomedical Engineering (ICBME)*. IEEE, 2020.
 8. Valizadeh, Gelareh, Farshid Babapour Mofrad, and Ahmad Shalbaf. "Impacts of spherical harmonics shape descriptors on the inter-slice interpolation of MR images." *2019 26th National and 4th International Iranian Conference on Biomedical Engineering (ICBME)*. IEEE, 2019.
 9. Valizadeh, Gelareh, Farshid Babapour Mofrad, and Ahmad Shalbaf. "Mathematical Modeling and Simulation in order to Evaluation of the Nanoparticle Size in the Magnetic Drug Targeting System." *Iranian Journal of Biomedical Engineering* 8.2 (2014): 125-133.

WORK EXPERIENCE:

- ❖ Programmer and mentor of artificial intelligence in medicine in Kiomedical company, 2021-now.
- ❖ Lecturer of nuclear physics course exercise solving class for master's degree in the Department of Nuclear Engineering, Islamic Azad University, Science and Research Branch, 2016.
- ❖ Researcher in "Magnetic Drug Targeting" team, Research Center for Science and Technology in Medicine, Imam Khomeini Hospital, 2009 to 2015.
- ❖ Part time job in Part Radiology Clinic as a medical physicist, 2010- 2012.
- ❖ Activity in the Atomic Energy Organization of Iran, Department of Health Physics as an intern, 2008.
- ❖ Doing the training course in Nuclear Medicine at Labbafinezhad Hospital as an intern, Tehran, Iran 2007.

TRAINING COURSES:

- ❖ Lecturer of the seminar "ISMRM, Tehran, Iran, 2022.

- ❖ Lecturer of the seminar "Introduction to the method of magnetic drug delivery in the treatment of cancer", Research Center for Science and Technology in Medicine, Tehran University of Medical Sciences and Health Services, 2015.
- ❖ MATLAB Programming workshop, Islamic Azad University, Science and Research Branch, 2012.
- ❖ "Fundamental of Materials and Methods of Research in Medical science Workshop", 2010.
- ❖ Training course "Introduction to COMSOL software", University of Tehran, Faculty of Electrical and Computer Engineering, 2010.
- ❖ "Introduction with Cyclotron Radio pharmacy and their Quality Control Workshop", 2009.

SKILLS:

- ❖ **Spoken languages:** Persian, English
- ❖ **Computer proficiency:** Microsoft Word, Excel and Power Point
- ❖ **Programming:** MATALB & Python environment
- ❖ **Softwares:**
 - ✓ **medical image processing software:** Imagej, 3D Doctor, AMIRA, MESHLAB, SEGMENT, ITK-snap, VTK, 3D-slicer, 4D-slicer
 - ✓ COMSOL simulation software
- ❖ **Interests:**
 - ✓ Shape descriptors
 - ✓ Spherical harmonics shape descriptors (SPHARM)
 - ✓ Medical image processing (Detection, Segmentation, Registration, Classification, Grading, and ...)
 - ✓ Machine learning
 - ✓ Deep learning & Pre-trained networks
 - ✓ Pattern recognition
 - ✓ Statistical Shape Modeling
 - ✓ Cardiac abnormality automatic analysis

REFERENCES:

- ❖ Dr. Farshid Babapour Mofrad, Associate Professor, Head of Department of Medical Radiation Engineering, Science and Research Branch of the Islamic Azad University, Tehran, Iran.
 - **Email:** f.mofrad@gmail.com

- ❖ Dr. Hamidreza Saligherad, Associate Professor, Department of Medical Physics, Tehran University of Medical Sciences, Tehran, Iran.
 - **Email:** hamid.saligheh@gmail.com

- ❖ Dr. Ahmad Shalbaf, Assistant Professor, Department of Biomedical Engineering & Medical Physics, Shahid Beheshti University of Medical sciences, Tehran, Iran.
 - **Email:** shalbaf@sbmu.ac.ir

- ❖ Dr. Mohamad Ali Oghabian, Professor, Department of Medical Physics and Biomedical Engineering, Tehran University of Medical Sciences, Tehran, Iran.
 - **Email:** oghabian@sina.tums.ac.ir