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Mohammad Reza Rezaeian

Biomedical Engineering, Ph.D.

Assistant Professor

Hamedan University of Technology, Hamedan, Iran

**About Me:**

My name is Mohamadr-reza Rezaeian and I’m a PhD graduated of Biomedical/Bioelectric Engineering from Tehran University in Iran. I'm interested in teaching and research in biomedical and artificial intelligence topics such as biomedical image processing, biological signal processing, bioinstrument, machine learning, medical imaging, and statistical pattern recognition. Also, I'm eager to do programming with C/C++, and MATLAB coding environments.

* Preferred Research Interest
  + **BioInstrumentation**
  + **Biomedical Signal & Image Processing**
  + **Magnetic resonance Imaging**
  + **Molecular Imaging**
* Education
  + **PhD of Biomedical/Bioelectric Engineering**
  + **University: Tehran University, Tehran, Iran**
  + **GPA: 16.67**
  + **Thesis Topic: Optimization of Imaging Protocol in MRI with PARACEST Contrast Agent**(Supervisor: Dr. Hamid Soltanian-zadeh , Dr. Gholam-Ali Hosien-zadeh)
  + **Thesis Score: 19.25**
  + **Msc of Biomedical/Bioelectric Engineering**
  + **University: Tehran University, Tehran, Iran**
  + **GPA: 17.13**
  + **Thesis Topic: Tracking algorithms for determining stenosis heart vessel by fuzzy method**
  + **Thesis Score: 19.25**
  + **Bsc of Electrical/Electronic Engineering**
  + **University: Isfahan University of technology, Isfahan, Iran**
  + **GPA: 15.56**
  + **Thesis Topic: Design and implement RF noise simulator in the intermeiate frequency.**
  + **Thesis Score: 20**
* Publications
  + Mohammad-Reza Rezaeian.“Determining chemical exchange rate of the CEST contrast agents in the molecular magnetic resonance imaging at the steady-state conditions” Iranian Journal of Biomed. Eng vol. 16, no. 4, pp.300-310, 2023.
  + Reza Akbari-Movahed, Mohammad-Reza Rezaeian.“Automatic diagnosis of mild cognitive impairment based on spectral and functional connectivity and nonlinear EEG-based features”Computational and Mathematical Methods in Medicine, vol. 2022, no.6, 2022.
  + Mohammad-Reza Rezaeian.“Simultaneous determination of exchange rate and concentration of paramagnetic contrast agent in magnetic resonance imaging using electromagnetic pulse width” Machine Vision and Image Processing, vol. 8, no. 4, pp. 1-11, 2021.
  + Mohammad-Reza Rezaeia.“Detecting the CEST effect through the noisy Z-spectrum based on solving the BlochMcConnell Equation”Iranian Journal of Biomed. Eng vol. 15, no. 1, pp. 47-58, 2021.
  + Somayeh Kazemi, Mohammad-Reza Rezaeian and Ali-Reza Kokabi, “Modeling of short polypeptide chains to identify Essential Amino Asids by calculating nuclear magnetic resonance spectrum” vol. 19, no. 67, pp.223-234, 2021.
  + Reza Akbari-Movahed, naeem Eslamyeh, Seyedeh Zohreh Sadredini, Mohammad-Reza Rezaeian.“An Automated EEG-based mild cognitive impairment diagnosis framework using spectral and functional connectivity features”International Iranian Conference on Biomedical Engineering (ICBME), Tehran, Iran, 2021.
  + Mohammad-Reza Rezaeian.“Analytical determination of the chemical exchange saturation transfer (CEST) contrast in molecular magnetic resonance imaging” Journal of signal data processing. vol. 17, no. 3, pp. 71-86, 2020.
  + Reza Akbari-Movahed, Mohammad-Reza Rezaeian, Mohammad-sina Javadifar, Mohammad-Reza Alimoradi. “A Face Recognition Framework Based on the Integration of Eigenfaces Algorithm and Image Registeration Technique” International Iranian Conference on Biomedical Engineering (ICBME), Tehran, Iran, 2020.
  + Reza Akbari-Movahed, Mohammad-Reza Rezaeian, Shirin Ghasemi.“An Image Watermarking Algorithm for Medical Computerized Tomography Images” In2019 5th Iranian Conference on Signal Processing and Intelligent Systems (ICSPIS) 2019 Dec 18 (pp. 1-5).
  + Mohammad-Reza Rezaeian, Golam-Ali Hosienzadeh, Hamaid Soltanianzadeh.“Simultaneous optimization of power and duration of radio-frequency pulse in PARACEST MRI” Magnetic Resonance Imaging journal, vol. 36, no.6, pp. 743-753, 2016.
  + Mohammad-Reza Rezaeian, Golam-Ali Hosienzadeh, Hamaid Soltanianzadeh. “Quantification of the CEST effect by Gaussian mixture modeling of Z-spectrum”, "Pattern Recognition and Image Analysis (IPRIA) , 2015 , 1.
  + Mohammad-Reza Rezaeian, Golam-Ali Hosienzadeh, Hamaid Soltanianzadeh.“Designing and Optimization of Continuous Electromagnetic RF Pulses for Studying CEST MRI by Numerical Solution to the Bloch-McConnell Equations” Iranian Journal of Biomed. Eng., vol. 8, no. 1, pp. 87-99, Spring 2014.
  + Mohammad-Reza Rezaeian, Golam-Ali Hosienzadeh, Hamaid Soltanianzadeh. “Optimum concentration of contrast agent for different RF pulses in CEST MRI” Nonosafty conferenc, Tehran, Iran, 2014.
  + Mohammad-Reza Rezaeian, Golam-Ali Hosienzadeh, Hamaid Soltanianzadeh. “Optimizing the parameters of continuous RF pulses for CEST MRI by numerical solution to the Bloch-McConnell equations” 20th Iranian Conference on Biomedical Engineering (ICBME'2013), Tehran, Iran, 2012, 137.
  + Mohammad-Reza Rezaeian, Golam-Ali Hosienzadeh, Hamaid Soltanianzadeh. “Numerical solutions to the Bloch-McConnell equations with radio frequency irradiation scheme for CEST MRI” Iranian conference on electrical engineering (ICEE'2012), Tehran, Iran, 2012, 1584.
* Honors and Awards
  + **Excellent Senior Technical Consultant**, Fukuda denshi company, july 1998.
  + **Excellent Senior Technical Consultant**, Fukuda denshi company, jan 2000.
  + **Excellent Senior Technical Consultant**, General Electic company (Branch of Iran) and Medical Physics society of Iran, Feb 2002
  + **The Best research project Award**, Hamedan University of Technology and Hamedan Governorate, Jan 2020.
* Work Experiences
  + **Assistant Professor, Biomedical Engineering Department**, Hamedan University of Technology, 2018-Present
  + **Head of Diako smart company**, Hamedan science technology of Hamedan, 2021-at present.
  + **Senior Technical Consultant**, Pars Didegan company, parsdidegan.com 2016-at present.
  + **Senior Technical Consultant**, Medical products distribution company depnds of Minestry of Health, 1994-2008.
  + **Senior Technical Consultant**, Fukuda denshi company, Fukuda.com, 1998-2006.
  + **Senior Technical Consultant of** Hitachi, Shimadzu, General electric, Mindray companies; electrocardigraphs, patient monitoring system, ultrasound imaging and other Medical equipments
  + **Senior Technical Consultant**, Saadat company, saadatco.com, 2000-2002.
* Teaching Courses
  + **Pattern recognition**, Hamedan University of Technology, 2020-present.
  + **Medical Imaging systems**, Hamedan University of Technology, 2021-present.
  + **Ultrasound medical Imaging,** Hamedan University of Technology, 2021-present.
  + **Principale of medical imaging**, Hamedan University of Technology, 2017-present.
  + **Rehabilitation**, Hamedan University of Technology, 2018-present.
  + **Digital Imaging processing**, Hamedan University of Technology, 2018-present.
  + **Logic circuit**, Hamedan University of Technology, 2017-present.
  + **Physiology lab**, Hamedan University of Technology, 2017-present.
* Refernces
* **Dr. Hamid Soltanian-zadeh** , Full Professor, University of Tehran, Email: [hszadeh@ut.ac.ir](mailto:hszadeh@ut.ac.ir)
* **Dr. Shahriar Jamasb**, Associate Professor, Hamedan University of Technology, Email: [jamasb@hut.ac.ir](mailto:jamasb@hut.ac.ir)
* **Dr. Golam-Ali Hosien-zadeh**, Full Professor, University of Tehran, Email: [ghzadeh@ut.ac.ir](mailto:ghzadeh@ut.ac.ir)