Mohammadreza Sehhati

Date of birth:	9 July 1981
Place of birth:	Isfahan, Iran
E-mail:	mr.sehhati @ gmail.com , mr.sehhati @ amt.mui.ac.ir
Position:	Assistant Professor at Isfahan University of Medical Sciences
Phone	+9831-3792-3854

Profile

Ph.D. degree in biomedical engineering with experience in Bioinformatics, Machine Learning, Information Systems, Medical Image Processing, and Programming.

Education

- **2010-2015**: Ph.D. in Biomedical Engineering, Isfahan University of Medical Sciences, Isfahan, Iran.
  - *GPA* = 18.6
  - *Thesis* Title: Seeking an appropriate feature extraction method for breast cancer recurrence prediction based on microarray gene expression data
- **2003-2006**: M.Sc. in Biomedical Engineering from University of Tehran, Tehran, Iran.
  - *GPA* = 16.68
  - *Thesis Title***:** Design and implementation of software infrastructures for an standard hospital information system based on HL7 protocol
- **1999-2003**: B.Sc. in Biomedical Engineering from Shahed University, Tehran, Iran.
  - *GPA* = 16.99
  - *Thesis Title***:** Design and manufacturing of a Holter-Monitoring device prototype

Teaching Experience

- **Shahed University (2007-2008)**:
  - Laboratory of Electrical Measurement,
  - Laboratory of Pulsing Technique
- **Isfahan University of Medical Sciences (2011-2015)**:
  - Digital Signal Processing,
  - Signals and Systems,
  - Basics of Electrical Circuits,
  - Biomedical Signal Processing (TA),
  - Medical Informatics
- **Islamic Azad University of Khomeinishahr (2011-2013):**
  - Principles of Radiology and Radiotherapy,
  - Principles of Rehabilitation and Devices,
  - Digital Image Processing,
  - Signals and Systems,
  - Laboratory of Electrical Measurement
- **Sepahan Institute of Higher Education (2013-2015):**
  - Programming with C++,
  - Application of Microcontrollers (AVR),
  - Biophysics,

- o Biomedical Instrumentation,
- o Digital Image Processing,
- o Principles of Rehabilitation and Devices

Work Experience

The Green Science Institute (GSI)
Dept. of R&D, Image Processing Group, Tehran, Iran, 2005-2010.
- *Job title*: System Design, Algorithm Development, Programming.

Safe Soft Company
Dept. of Software Development, Tehran, Iran, 2008.
- *Job title*: Project Manager.

Relevant Responsibilities and Achievements

- **Director** of informatics team and **member of administration team** of 17th Iranian Conference on Biomedical Engineering, Isfahan University of Medical Sciences, 2010.
  - o Design of full electronic process of registration, paper's upload and judgment, etc.
- **Management** of Bio-Instrument Laboratory, University of Tehran, 2006-2008.
  - o Installation of *POWERLAB* instruments and design of laboratory program.
- **Management** of communication and power engineering educational group, Sepahan institute of higher education, 2012-2013.
- **Director** of sessions for providing standards for more than 15 biomedical devices which were published by the Iranian National Standards Organization

Research Projects

- Several **diverse research project** (in the field of image processing and control) funded by Research Center of Intelligent Processing of Signals (Tehran, Iran).
- Design and manufacturing of a research **instrument for measurement of the reaction time** funded by University of Social Welfare and Rehabilitation Sciences (Tehran, Iran).
- Study on standard **protocols of communication in clinical information systems** as M.Sc. seminar.
- Investigation of present **rehabilitation technologies** in the world, funded by Social Welfare organization.
- **Bioinformatics** research projects (gene networks, microarrays analysis, gene expression, …)

Key Skills

- **Special skills**:
  - O Bioinformatics (Data mining, Microarray gene expression analysis, Biomarker discovery, Network analysis),
  - O Medical Image Processing (Algorithm design and software development),
  - O Hospital Information System design/development/evaluation,
  - O Design and manufacturing of electronic circuits for biological signal measurement.
- **Computer skills**:
  - O Programming (R, C++, MatLab, VB), Web (PHP, HTML, XML), Database (MySQL).

- **Languages**:
  - English (MHLE certificate), Persian (Native), Arabic (Beginner).

Publications

Journals:

- E. Saghapour, S. Kermani, **M. Sehhati** "A novel feature ranking method for prediction of cancer stages using proteomics data", PLoS ONE 2017, 12(9): e0184203.
- E. Saghapour, **M. Sehhati**, "Prediction of metastasis in advanced colorectal carcinomas using CGH data", Journal of Theoretical Biology 2017, 429:116-123.
- M. Rafati, E. Havaee, H. Moladoust, **M. Sehhati**, "Appraisal of different ultrasonography indices in patients with carotid artery atherosclerosis", EXCLI Journal 2017; 16:727-741.
- M. Momenzadeh, **M. Sehhati,** A. Mehri Dehnavi, A. Talebi, H. Rabbani, "Automatic diagnosis of vulvovaginal candidiasis from Pap smear images", Journal of Microscopy 2017, 267: 299–308.
- **M. Sehhati,** M. Kayed, "Evaluation of Different Classification Models to Extract Gene Signatures for Breast Cancer Recurrence Using Microarray Data", Journal of Isfahan Medical School 2017; 35(419):98-103.
- A. Mehridehnavi, H. Zand, **M. Sehhati,** "Dimensionality reduction on topological features of the gene network constructed from microarray data for the prediction of breast cancer recurrence", Journal of Isfahan Medical School 2016; 33(359).
- **M. Sehhati**, A. Mehridehnavi, H. Rabbani, M. Pourhossein, "Stable gene signature selection for prediction of breast cancer recurrence using joint mutual information", IEEE/ACM Transaction on Computational Biology and Bioinformatics 2015; 12(6): 1440-1448.
- A. Mehridehnavi, **M.R. Sehhati,** H. Rabbani, "Hybrid method for prediction of metastasis in breast cancer patients using gene expression signals", Journal of Medical Signals and Sensors 2013; 3(2):79-87.
- **M.R. Sehhati**, A. Mehridehnavi, H. Rabbani, S.H. Javanmard, "Using protein interaction database and support vector machine to improve gene signatures for prediction of breast cancer recurrence", Journal of Medical Signals and Sensors 2013; 3(2):87-93.

Conferences:

- **M.R. Sehati**, R.A. Zoroofi, H. Soltanian-zadeh, "A new method in design of an object-oriented and standard software substructure for Hospital Information Systems", *2nd International conference on Information and knowledge technology (IKT)*, Tehran, Amirkabir University, Tehran, Iran, 24-26 June 2005.
- V. Taimouri, **M.R. Sehati**, C. Locus, "Segmentation of MRI brain images using genetic algorithm for clustering of image data", *7th Conference on Intelligent Systems*, Khaje Nasiredin Toosi University, Tehran, Iran, 9-10 December 2005.
- **M.R. Sehati**, R.A. Zoroofi, H. Soltanian-zadeh, "Design and implementation of a standard radiology information management system under an extendable framework for develop healthcare information systems", *11th International Conference on Computer Science in Iran*, Institute for studies in theoretical physics and mathematics (IPM), Tehran, 24-26 January 2006.

- **M.R. Sehati**, V. Taimouri, C. Locus, "Human face detection based on matching with an optimized pattern using genetic algorithm", *14th International conference on Electrical Engineering in Iran*, Amirkabir University, Tehran, Iran, 2006.
- **M.R. Sehati**, H. Pourghassem, "Improvement of the Performance of an Automatic Object Tracking System in the Various Optical Conditions", *12th International Conference on Computer Science in Iran,* Shahid Beheshti University, Tehran, Iran, 20-22 February 2007.
- S.E. Mahmoodi, V. Taimouri, A.H. Simjour, S. F. Roohi, N. Asadi, M.R. Nazemzadeh, **M.R. Sehhati**, A. Akhoundi Asl, G. Hossein Zadeh, H. Soltanian-Zadeh, "Web based visualization and processing software for 2D and 3D datasets", *The 13th Iranian Conference on Biomedical Engineering*, Sharif University of Technology, Tehran, Iran, 21-22 Feb, 2007.

References

References, letters of recommendation and other documents available upon request