



## Mohammadreza Sehhati

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| <b>Date of birth:</b>  | 9 July 1981   |
| <b>Place of birth:</b> | Isfahan, Iran   |
| <b>E-mail:</b>         | mr.sehhati @ gmail.com , mr.sehhati @ amt.mui.ac.ir           |
| <b>Position:</b>       | Assistant Professor at Isfahan University of Medical Sciences |
| <b>Phone</b>           | 031-37925263  |

### Profile

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

### Education

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- **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

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- **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,

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

## **Work Experience**

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### **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**

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- **Director** of informatics team and **member of administration team** of 17<sup>th</sup> Iranian Conference on Biomedical Engineering, Isfahan University of Medical Sciences, 2010.
  - Design of full electronic process of registration, paper's upload and judgment, etc.
- **Management** of Bio-Instrument Laboratory, University of Tehran, 2006-2008.
  - 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**

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- 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**

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

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

## Publications

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### Journals:

- 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*, Vol. 33, No. 359, 3<sup>rd</sup> Week, January 2016.
- **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*, 12(6): 1440-1448, November/December 2015.
- 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*, 3(2):79-87, 2013.
- **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*, 3(2):87-93, 2013.

### 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", *14<sup>th</sup> 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", *12<sup>th</sup> 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

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References, letters of recommendation and other documents available upon request