

# Saeid Rahmani

M.ENG.

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## Summary

Saeid Rahmani is a multidisciplinary expert in web development, AI, and biomedical research. As a full-stack developer, he builds and maintains high-performance web platforms, while his research focuses on cancer genetics, immunology, and neuroscience, developing computational tools for medical applications. His expertise in machine learning, bioinformatics, and neural signal processing supports advancements in medical and computational research. Proficient in Python, R, Java, and AI frameworks, he excels in both technology and life sciences.

## Education

### M.Sc. in Computer Engineering (Artificial Intelligence)

SHARIF UNIVERSITY OF TECHNOLOGY

THESIS: UNSUPERVISED NEURAL SPIKE SORTING BY DEEP LEARNING METHODS, ADVISOR: DR. ALI SHARIFI-ZARCHI

Tehran, Iran

2017 - 2020

### B.Sc. in Computer Engineering

KHARAZMI UNIVERSITY

ADVISOR: DR. AZADEH MANSOURI

Tehran, Iran

2012 - 2016

## Skills

### Programming

R, Python, Matlab, Java, Javascript, Bash, C, C++, C#

### Frameworks and Libraries

Java Spring, React, Docker, Git, Scikit-learn, TensorFlow, Keras, Pytorch, CUDA, OpenMP, MPI

### Languages

Farsi, English

## Work Experience

### High-Performance Computing (HPC) Center

Institute for Research in  
Fundamental Sciences (IPM),  
Tehran, Iran

#### FULL STACK DEVELOPER

- Leading the development and maintenance of a web-based platform for researchers to rent computational resources.
- Managing backend development using Java Spring and frontend development with React-based technologies.
- Ensuring seamless integration of file transfer, web-based Bash shell access, and job queue management by customizing open source tools.
- Utilizing extensive Linux expertise to support the functionality and security of the HPC system.

2022 - Present

### Pardis Gene Genetic Lab

#### BIOINFORMATICIAN

- Developing computational tools for HLA typing using R and Linux-based frameworks.
- Implementing bioinformatics pipelines with Nextflow and Cromwell for analyzing real clinical sequencing samples.
- Contributing to research on prognosis and early detection of cancer using cell-free DNA analysis.

Tehran, Iran

2022 - Present

### High-Performance Computing (HPC) Center

Institute for Research in  
Fundamental Sciences (IPM),  
Tehran, Iran

#### GRADUATE RESEARCH ASSISTANT

- Conducted research on high-performance computing, leveraging CUDA, MPI, and OpenMP for optimized computation.
- Explored machine learning applications in medical research.
- Led internship programs in web development, machine learning, and bioinformatics.

2014 - 2020

### Department of Genetics

Tarbiat Modares University, Tehran,  
Iran

#### GRADUATE RESEARCH ASSISTANT

- Conducted multiple research projects on cancer genetics and molecular biology.
- Analyzed sequencing and gene expression data using R and Linux-based tools, focusing on TCGA datasets.
- Researched cancer prognosis and diagnosis, with a focus on breast cancer, lung cancer, and glioblastoma.
- Developed an R package and web-based tool, InterOpt, for optimizing PCR-based gene expression normalization.

2017 - 2022

### Neuroscience Group

Royan Institute, Tehran, Iran

#### GRADUATE RESEARCH ASSISTANT

- Analyzed multi-electrode array (MEA) data using MATLAB and R.
- Developed novel methods for neural signal processing.
- Designed and implemented an online application in C# for real-time communication with multi-channel MEA systems, enabling closed-loop stimulation and recording.
- Worked directly with hardware, integrating stimulation and recording systems for neural experiments.

2017 - 2022

## Honors & Awards

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| <b>3<sup>rd</sup> The Fifth National Competition on Functional Magnetic Resonance Imaging Data Analysis Focusing on Computer-Aided Detection (CAD) Systems</b> | <i>Tehran, Iran</i>  |
| NBML   | 2020                 |
| <b>1<sup>st</sup> The First National fNIRS Data Analysis Competition Focusing on Working Memory</b>  | <i>Tehran, Iran</i>  |
| NBML   | 2021                 |
| <b>3<sup>rd</sup> The Fourth Iranian Brain-Computer Interface (BCI) Competition (iBCIC2021)</b>  | <i>Tehran, Iran</i>  |
| NBML   | 2021                 |
| <b>Best Paper Award</b>  | <i>Tehran, Iran</i>  |
| ARTIFICIAL INTELLIGENCE IN MEDICAL IMAGING CONFERENCE  | 2019                 |
| <b>2<sup>nd</sup></b>  | <i>Iran</i>          |
| NATIONAL MASTER ENTRANCE EXAM OF UNIVERSITIES IN IRAN  | 2017                 |
| <b>1<sup>st</sup></b>  | <i>Kanpur, India</i> |
| MEMOCODE DESIGN CONTEST  | 2016                 |
| <b>2<sup>st</sup></b>  | <i>Texas, USA</i>    |
| MEMOCODE DESIGN CONTEST  | 2015                 |

## References

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| <b><u>Dr. Ali Sharifi-Zarchi</u>, Assistant professor</b>                      | <i>asharifi@sharif.edu</i>            |
| COMPUTER ENGINEERING DEPARTMENT, SHARIF UNIVERSITY OF TECHNOLOGY, IRAN         | (+98) 21 6616 6685                    |
| <b><u>Dr. Azadeh Mansouri</u>, Assistant professor</b>                         | <i>a_mansouri@khu.ac.ir</i>           |
| ELECTRICAL AND COMPUTER ENGINEERING, IRAN                                      |                                       |
| <b><u>Dr. Dara Rahmati</u>, Assistant professor</b>                            | <i>d_rahmati@sbu.ac.ir</i>            |
| SCHOOL OF COMPUTING AND INFORMATICS, UNIVERSITY OF LOUISIANA AT LAFAYETTE, USA | (+98) 21 29904110                     |
| <b><u>Dr. Seyed Javad Mowla</u>, Full professor</b>                            | <i>sjmowla@modares.ac.ir</i>          |
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| <b><u>Dr. Sahar Kiani</u>, Associate professor</b>                             | <i>sahar_kiani@royaninstitute.org</i> |
| DEPARTMENT OF BRAIN AND COGNITIVE SCIENCES, ROYAN INSTITUTE, IRAN              | (+98) 21 23562512                     |