

# 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)

Tehran, Iran

SHARIF UNIVERSITY OF TECHNOLOGY

2017 - 2020

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

### B.Sc. in Computer Engineering

Tehran, Iran

KHARAZMI UNIVERSITY

2012 - 2016

ADVISOR: DR. AZADEH MANSOURI

## 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

2022 - Present

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.

### Pardis Gene Genetic Lab

Tehran, Iran

BIOINFORMATICIAN

2022 - Present

- 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.

### High-Performance Computing (HPC) Center

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

2014 - 2020

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.

### Department of Genetics

Tarbiat Modares University, Tehran,  
Iran

2017 - 2022

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.

### Neuroscience Group

Royan Institute, Tehran, Iran

2017 - 2022

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.

## 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>
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<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
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