

# SAMIRA ABEDINI



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**GitHub:**

<https://github.com/SamiraAbedini>

**Kaggle:**

<https://www.kaggle.com/samiraabedini>

## EDUCATION

### Master of Science in Bioinformatics

October 2024 – now

Saarland University, Saarland, Germany

**Selected Courses:** Algorithms and Data Structures, Neural Networks, Elements of Machine Learning

### Bachelor of Science in Biomedical Engineering

September 2017 – September 2021

(GPA: 16.55/20)

University of Tabriz, Tabriz, Iran

**Selected Courses:** Medical Information Technology, Computer Programming, Mathematics 1 and 2, Biological and Computational Intelligence, Biostatistics, Biophysics, Biochemistry, Medical Physics

**Final Project:** “Designing a Digital Feedforward Dynamic Range Compressor for hearing aids”  
(Grade achieved: 20/20)

## WORK EXPERIENCE

### Mathematics teacher (part-time)

April 2020 – September 2023

Hallaj Mathematics Academy

- Taught mathematics to high school students preparing for the university entrance exam
- Organized problem-solving sessions, administered exams, and assigned homework

### Biomedical engineer

December 2020 – January 2023

R&D team, Bonyan Mechatronic Gostar Spota, Tabriz, Iran

- Analyzed medical data (ECG, EEG, and MRI data) using machine learning techniques
- Programmed touch-screen LCDs for medical devices

### Medical devices sales expert

June 2019 – July 2019

Niroo Tavan K. Company, Tabriz, Iran

## INTERNSHIP

### R&D team, Bonyan Mechatronic Gostar Spota, Tabriz, Iran

August 2020 -- December 2020

**Project:** Machine Learning based optimization of Piezoelectric Energy Harvester for Leadless heart Pacemakers, (Grade achieved: 20/20)

## PUBLICATION

### Machine Learning – Based Prediction of Early Alzheimer’s Biomarkers in High-Risk Offspring (\*under preparation)

February 2024 – ongoing

**Authors:** Samira Abedini, Farhad Farkhondeh, Soomayeh Heisiattalab

- Collecting 64 channels resting-state EEG data from two groups of subjects (offspring of Alzheimer’s patients, and control group) in both eye-open and eye-close situations
- Preprocessing and Creating a dataset from calculated EEG Power Spectrum Density, Relative Power, and Absolute Power of each subject
- Training different machine learning models on the dataset to diagnose the early biomarkers of Alzheimer’s disease

## COURSES AND CERTIFICATES

### R-Programming

October 2024 – ongoing

DataCamp

### Python for Genomic Data Science (Genomic Data Science Specialization)

October 2023 – January 2024

Coursera, Johns Hopkins University

### Introduction to Genomic Technologies (Genomic Data Science Specialization)

October 2023 – January 2024

Coursera, Johns Hopkins University

### AI for Medical Diagnosis (AI for Medicine Specialization)

June 2023 – September 2023

Coursera, DeepLearning.AI

### Participating in “AI conference, Generative AI Tools”

May 2023

Sharif University of Technology

### Machine Learning Specialization

July 2022 – October 2022

Coursera, DeepLearning.AI

### An Intuitive Introduction to Probability

July 2022

Coursera, Karl Schmedders

### Artificial intelligence school (ML, DL)

January 2022 – March 2022

U-Tech Academy, University of Tehran

## SELECTED PROJECTS

<b>ADHD diagnosis from rs-fMRI data using deep learning methods</b> (Using Python) Dataset: ADHD-200 NYU dataset	November 2023 – December 2023
<b>Chest X-Ray Medical Diagnosis with Deep Learning</b> (Using Python) Dataset: ChestX-ray8 dataset	June 2023 – September 2023
<b>Brain Tumor Auto-Segmentation for Magnetic Resonance Imaging</b> (Using Python) Dataset: Decathlon 10 Challenge dataset	June 2023 – September 2023
<b>Object detection project: Detecting Hexbug heads in videos</b> (Using Python) Dataset: AnkiLab(Traco Repository) Hexbugs dataset on GitHub	July 2023
<b>Object detection project: Real-time Vehicle detection, tracking, and counting (YOLOv8)</b> (Using Python, YOLOv8) Dataset: Roboflow dataset	July 2023

## LANGUAGE SKILLS

**English:** C1

\* TOEFL exam Score: 104 (Reading: 28 Listening: 28 Speaking: 23 Writing: 25) Test date: April 12, 2023

**German:** A2

**Turkish:** C1

**Mother tongue:** Azerbaijani, Persian

## SKILLS

Python Programming	●●●●○	NumPy	●●●●○
R Programming	●●○○○	Matplotlib	●●●●○
C++	●●●●○	Streamlit	●●●●○
TensorFlow	●●●●○	Jupyter Notebook, VS Code	●●●●○
Scikitlearn	●●●●○	GIT and GitHub	●●●●○
Pandas	●●●●○	MATLAB	●●●●○

## MEMBERSHIPS

<b>Member of Ayaz astronomical society</b>	Ongoing
<b>Board member of student scientific association of biomedical engineering</b> Faculty of Electrical and Computer Engineering, University of Tabriz	October 2019 – June 2020
<b>Member of the executive team of the biomedical engineering conference</b> University of Tabriz	September 2019

## REFERENCES

### CEO of Bonyan Mechatronic Gostar Spoota Company

Name: Dr. Majid Siami  
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### Associate Professor at the University of Tabriz

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