

Nikoo Moradi

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🌐 [LinkedIn](#) • [Google Scholar](#)

Education

University of Edinburgh

Edinburgh, UK

PhD, UKRI AI center for biomedical innovations (AI4BI)

Sep 2025 - Expected 2029

Title of Thesis: Artificial Intelligence EEG Biomarkers for Neurodevelopmental Disorders

Sharif University of Technology

Tehran, Iran

BSc in Electrical Engineering, GPA: 17.82 out of 20

Oct 2021 - Aug 2025

Notable Grades (out of 20):

- Signals and Systems: 20
- Linear Algebra: 20
- Biological Computation: 18.6
- Computer Vision Lab: 18.8
- Matrix and Tensors Decompositions: 19.1 (graduate course)
- Introduction to Machine Learning: 17
- Medical Signal and Image Processing Lab: 18.7

Publication

VS-DDPM: Efficient Low-Cost Diffusion Model for Medical Modality

[arXiv](#)

Translation

N.Moradi, G.Luijten, B.Puladi, J.Kleesiek, V.Alves, J.Egger, A.Ferreira

Comparative Analysis of nnUNet and MedNeXt for Head and Neck Tumor

[arXiv](#)

Segmentation in MRI-guided Radiotherapy

N.Moradi, A.Ferreira, B.Puladi, J.Kleesiek, E.Fatemizadeh, G.Luijten, V.Alves, J.Egger

Research Interests

AI-driven EEG biomarkers for neurodevelopmental disorders, Machine Learning

Research Experience

Machine Learning EEG Biomarkers in SYNGAP1 Rodent Models

Edinburgh, UK

1-page paper, IEEE EMBC [📄](#)

Nov 2025 - Mar 2026

Supervisors: Dr. Alfredo Gonzalez-Sulser, Dr. Javier Escudero

- Developing an EEG-based XGBoost classifier using BorutaSHAP feature selection, achieving >70% accuracy in distinguishing SYNGAP1 mutations from controls.

Remote Research Intern at Institute for AI in Medicine (IKIM)

Essen, Germany

Bachelor thesis [📄](#)

Jun 2024 - Oct 2024

Supervisors: Prof. Egger, Dr. Puladi, Dr. Emad Fatemizadeh

- Contributing to the [HNTS-MRG24](#) MICCAI Challenge, focusing on the segmentation of head and neck tumors for MRI-guided adaptive radiotherapy applications.
- Leading the development and evaluation of algorithms, writing the final paper, and presenting solutions at the live event of the challenge as a part of MICCAI conference.
- Achieving 1st place in Task 1 (pre-radiotherapy segmentation).

Selected Projects

EEG Signal Analysis for Pattern Recognition

Developing a pattern recognition system to classify emotional responses to VR movies, using EEG signal data. The project involves feature extraction in time and frequency domains and optimized feature selection using evolutionary algorithms as well as the deployment of MLP and RBF neural networks for classification.

EEG Biomarker Analysis for Alzheimer's Disease

Investigating Phase Locking Value during olfactory stimulation as a biomarker for Alzheimer's Disease in EEG signals.

Privacy-Preserving Machine Learning

Implementing privacy-preserving techniques like the SISA algorithm, focusing on enhancing model security and accuracy by addressing Machine Unlearning.

Relevant Certifications

Deep Learning Specialization ([Certificate](#))

Machine Learning Specialization ([Certificate](#))

Voluntary Teaching Experience

Electrical Circuits Theory

Fall 2024

Designing and grading practical and theoretical assignments

Logical Circuits and Digital Systems

Fall 2023 and Spring 2024

Conducting regular classes focused on solving theoretical assignments

Mathematical Methods in Engineering

Spring 2024

Designing and grading quizzes

Electrical Circuits LAB

Spring 2023

Laboratory Assistant, Guiding students through each experiment

Honors and Awards

HNTS-MRG24 MICCAI Challenge

2024

Awarded for the 1st place in tumor segmentation MR-guided applications.

[\[verification\]](#)

National Universities Entrance Exam

2021

Ranked among top 0.1% with over 140,000 participants.

Skills

Programming:

- Advanced: Python, Matlab
- Libraries: PyTorch, TensorFlow, Scikit-Learn, MNE, EEGLAB
- Intermediate: C++, $\text{\LaTeX}$

Language:

- Persian: Native
- English: Professional working proficiency
- **TOEFL iBT**: 107/120 (R:27, L:28, S:28, W:24)