

Summary: A Junior Data Scientist specializing in multimodal Deep Learning, designing advanced architectures like Foundation Models, Transformers, Self-Supervised learning (VICReg), and Machine Learning (CatBoost and LightGBM), to handle complex, large-scale datasets including signal, image, tabular, and textual data.

SeyedHasan MirHosseini

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Work Experience

August 2025 – October, Data scientist (intership) at University of Eastern Finland

Responsibilities: Developing a foundation model from EEG recordings using Transformer and self-supervised learning (VICReg) pretraining, then fine-tune the pretrain model to predict behavioral performance.

Source: EEG Foundation Challenge 2025, <https://eeg2025.github.io/>

Technologies and tools: Python, PyTorch

Supervisor: Mastaneh Torkamani Azar (mastaneh.torkamani@uef.fi)

January 2024 – 2025, Data Analyst at Gamification Group of Tampere University

Responsibilities: Experimental data organization, cleansing, preprocessing, statistical analysis, visualization of facereader data, physiological signal processing (PPG and EDA), co-authoring in publications, [Github Repository](#)

Tools & Technologies: Python: Pandas, NumPy, SciPy, Matplotlib, R

Supervisor: Dr. Wilk Oliveira Dos Santos (wilk.oliveira@tuni.fi)

Mater's Thesis: Seizure Detection from EEG Signals Using Multimodal Deep

Learning , [Github repository](#) (Grade: 5/5)

Unimodal Model: LSTM-Transformer: 79% | CNN-Transformer: 90 %

Multimodal Model: Fusion, LSTM&CNN -Transformer: 82%

Supervisors: Prof. Jaakko Peltonen jaakko.peltonen@tuni.fi,

Doctoral researcher Saana Seppälä saana.seppala@tuni.fi

Education

Specialization	Year, University
Master of Statistical Data Analytics	2023 - 2025 Tampere University, Tampere, Finland
Master of Business Administration	2013 - 2016 Tehran University, Tehran, Iran
Bachelor of Mathematics	2008 – 2013 Damghan University, Damghan, Iran

Courses

Data science course with Python and R
Web Development with Django, HTML, CSS

Technical Skills

Skills	Tools
Programing Language	Python and R
Machine Learning, Data Mining	Pandas, NumPy, SciPy, scikit-learn
Deep Learning: Transformers, LSTMs, CNNs, RNN, Autoencoders, Embedding, Foundation Model, Transfer Learning	PyTorch
Image and Signal Processing: EEG, EDA, PPG and spectrogram analysis	SciPy and Librosa, MNE
Data Visualization	Matplotlib, Seaborn
Statistical Analysis	R
Web Development	Django, HTML, css

Soft Skills

Organized and Punctual
Self-Directed Research
Collaborative Teamwork
Communication and Engagement
Project Management & Organization
Problem-Solving Mindset

Languages

Persian: Native
English: C1
Finnish: A1

projects

Project Title	Model	Performance	Github Repository
Predicting Loan Payback	LightGBM, CatBoost	ROC: 0.92135%,	Github Repository
Predicting the Beats-per-Minute of Songs	Deep Learning	RSME: 26.41	Github Repository
Binary-Classification-with-a-Bank-Dataset	LightGBM Autoencoder	ROC AUC: 97% 96,4%.	Github Repository
Predicting Road Accident Risk	Autoencoder	RMSE: 0.056	Github Repository
Predict the Introverts from the Extroverts	CatBoost Random Forest LightGBM	Accuracy: 0.974	Github Repository
Detect Behaviour with Sensor Data	GRU + CNN	F1-Score: 81%	Github Repository
Image2Biomass Prediction	U-Net, Resnet	R ² : 0.60 (In progress)	Github Repository
Digitization of ECG Images	Self-supervised learning-Transformer	In progress	In progress
Protein Function Prediction	Transformer	In progress	In progress