

Erfaneh Hosseini

📍 Isfahan ✉ Erfaneh.Hosseini2000@gmail.com ☎ +98 916 298 0198 in ErfanehHosseini 🌐 Erfaneh2003

Education

Islamic Azad University of Najafabad, Isfahan, Iran

Jan 2023 – Present

Bachelor of Computer Engineering – Software Branch

- GPA: 3.5/4.0
- **Relevant Coursework:** Programming Fundamentals, Data Structures, Computer Architecture

Farzanegan High School (National Organization for Development of Exceptional Talents), Khomeini Shahr, Isfahan, Iran

Sept 2015 – June 2022

Diploma in Natural Sciences – Science Branch

- GPA: 4.0/4.0

Honors

Ahvazi Award

Feb 2024

- Recognized for outstanding performance and contribution in the field.
- **Link:** <https://www.bcncongress.ir/EnDefault.aspx?PN=124> 🔗

TA-Experience

Teaching Assistant

IAUN, Isfahan, Iran

Teaching Assistant for Engineering Mathematics course

2023 – 2025 (4 semesters)

- Served as a Teaching Assistant for the Engineering Mathematics course at Islamic Azad University, Najafabad Branch (2023–2025).
- Assisted the professor in delivering lectures, conducting tutorials, grading assignments and exams, and providing academic support to students.
- Guided students through Differential Equations, Linear Algebra, Vector Calculus, Laplace Transforms, Fourier Series, Numerical Methods, and Complex Variables.
- Provided one-on-one mentoring and problem-solving sessions.

Work Experience

ASR_E_NO Academy, Khomeini Shahr, Isfahan, Iran

Jan 2022 – Aug 2025

English Teacher

Taught English to students of various age groups.

Projects

Interpretable CNN for Brain-Inspired Vision

github.com/Erfaneh2003



Developed a CNN inspired by human visual processing with attention maps for model interpretability.

Tools: Python, PyTorch, Matplotlib

EEG Signal Classification with Explainable AI

github.com/Erfaneh2003



Classified EEG signals using deep learning and applied XAI methods to explain model decisions.

Tools: Python, TensorFlow, SHAP/LIME

Sparse Autoencoder for Feature Extraction

github.com/Erfaneh2003



Built a sparse autoencoder to extract key features from neural and image data while reducing dimensionality.

Tools: Python, PyTorch, NumPy

Neuroscience-Inspired Reinforcement Learning Agent

github.com/Erfaneh2003



Created a reinforcement learning agent inspired by brain learning mechanisms with interpretable decision paths.

Tools: Python, OpenAI Gym, PyTorch

Explainable Text Classification

github.com/Erfaneh2003



Designed an LSTM/Transformer-based text classifier with XAI to highlight features influencing predictions.

Tools: Python, TensorFlow, HuggingFace Transformers, SHAP

Volunteer Work

Research Mentor

Sep 2025 – Present

NeuroScience Competition

- Mentor students and participants in research-oriented activities related to neuroscience.
- Support scientific problem solving, research development, and project guidance.

AI Intern

Isfahan, Iran

Nexus Workplace

Dec 2025 – Jun 2026

- Worked on AI agents and gained hands-on experience with frameworks such as LangChain and LangGraph.
- Learned and worked with FastAPI for developing AI-related applications and services.
- Used Git for version control and collaborated with team members on real-world projects.
- Gained practical understanding of how AI products are developed in real-world environments.

Secretary, Computer Engineering Scientific Association

Najafabad, Isfahan

Islamic Azad University, Najafabad Branch

Feb 2025 – Jun 2026

- Served as Secretary of the Computer Engineering Scientific Association.
- Led and coordinated association activities, student programs, and educational events.
- Coordinated members and supported communication among students and university staff.
- Contributed to the planning and organization of technical and academic programs.

Volunteer Member

Mar 2024 – Jun 2026

Isfahan Neuroscience Association

- Volunteered as an active member for approximately two years, supporting the association's activities and contributing to educational and community events.
- Served as an organizer at the **NeuroSpark School** in September 2025.
- Helped organize an outreach event introducing neuroscience to students in a simple and engaging way.
- The event was organized in collaboration with the Isfahan Neuroscience Association, the Mathematics House, and supported by Farokhandeh Biscuit Factory and Deragahi Leather.

Volunteer Staff

Feb 2025 – Sep 2025

TEDxIUT

- Worked within the Public Relations and Sponsorship teams.
- Supported event communications, managed partnerships, and coordinated sponsor relations.

Research Student

Jan 2021 – Dec 2022

NeuroScience Competition

Certificates

Computational Neuroscience School – Neuromatch Academy

Jul 2025

[View Certificate](#)

Neuroscience Competition – Sampad

Feb 2021

[View Certificate](#)

ML in Neuroscience Workshop – IPM School of Cognitive Sciences

Feb 2024

[View Certificate](#)

Cognitive Neuroscience Course – AJUMS Brain & Cognition Association

Oct 2021

[View Certificate](#)

6th Sharif Neuroscience Symposium – Sharif University & IPM

Mar 2024

[View Certificate](#)

Self-Study Course Book

- [Linear Algebra – MIT OpenCourseWare](#)
- [Introduction to Probability and Statistics – MIT OCW](#)
- [Statistics Probability – Khan Academy](#)
- [Machine Learning – Andrew Ng \(Coursera\)](#)
- [Intro to ML with PyTorch – Udacity](#)
- [Deep Learning Specialization – Coursera](#)
- [Artificial Intelligence: A Modern Approach – Russell & Norvig](#)
- [Computational Neuroscience Course – Neuromatch](#)
- [Computational Neuroscience Resources – Fleur Zeldenrust](#)

Technologies

Languages: Python, C, Java, Objective-C, SQL, JavaScript

Spoken Languages: English (Fluent), German (Intermediate)

Technologies:

Frameworks / Libraries: TensorFlow, PyTorch, Keras AI Agents, LangChain, LangGraph, FastAPI

Databases / Data Technologies: MySQL

Development Tools / IDEs: Visual Studio, PyCharm

Cloud / DevOps / Deployment: GitHub, Git,

Others / Miscellaneous: MATLAB