


ALIREZA HOSSEINI


AI Developer

 Website

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 Tehran, Iran

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RESEARCH INTERESTS

- Deep Learning, Computer Vision
- Saliency Map Prediction, Cognitive science
- INR, NerF, etc
- Generative Models, OCR

SKILLS

Languages: Python, MATLAB, HTML, C/C++.

AI Tools: PyTorch, OpenCV, TensorFlow, NPM.

Others: Docker, Git, Linux, Model Serving, Fast-API.

EDUCATION

- 9/2022 - 9/2024 **Master of Science - MS, Telecommunication Systems** University of Tehran
Grade: 17.95/20. Thesis: Analyzing and improving the performance of networks for predicting human visual saliency map in images and investigating their use in the field of neuromarketing
- 9/2017 - 3/2022 **Bachelor of Science - BS, Electrical and Electronics Engineering** Iran University of Science and Technology
Grade: 17.03/20. Thesis: Diagnosing and Detection and of internal combustion engine accessories belt for health monitoring and performance investigation; a Machine Vision approach

SELECTED PUBLICATIONS

- WACV2025 **SUM: Saliency Unification through Mamba for Visual Attention Modeling** Github
• Alireza Hosseini, Amirhossein Kazerooni, Saeed Akhavan, Michael Brudno, Babak Taati
- DAS 2025 **Brand Visibility in Packaging: A Deep Learning Approach for Logo Detection, Saliency-Map Prediction, and Logo Placement Analysis** Github
• Alireza Hosseini, K.Hooshanfar, P.Omrani, Re.Toosi, R.Toosi, Z.Ebrahimian, M.A.Akhaee
• Journal: Discover Applied Sciences
- IbPRIA 2025 **Efficient Malicious UAV Detection Using Autoencoder-TSMamba Integration**
• Azim Akhtarshenas, Ramin Toosi, David López-Pérez, Tohid Alizadeh, Alireza Hosseini
- Arxiv 2025 **DTFSal: Audio-Visual Dynamic Token Fusion for Video Saliency Prediction** Github
• Kiana Hooshanfar, Alireza Hosseini, Ahmad Kalhor, Babak Nadjar Araabi
• Submitted to BMVC2025
- WACV 2024 **INCODE: Implicit Neural Conditioning with Prior Knowledge Embeddings** Github
• Amirhossein Kazerooni, Reza Azad, Alireza Hosseini, Dorit Merhof, Ulas Bagci
- ICWR 2024 **Hybrid Retrieval-Augmented Generation Approach for LLMs Query Response Enhancement**
• P.Omrani, Alireza Hosseini, K.Hooshanfar, Z.Ebrahimian, R.Toosi, M.A.Akhaee
- ICWR 2023 **Farsi CAPTCHA Recognition Using Attention-Based Convolutional Neural Network**
• Alireza Hosseini, Matine Hajyan, Ramin Toosi, Mohammad Ali Akhaee
- ASE 2022 **Machine vision-based measurement approach for engine accessory belt transverse vibration based on deep learning method**
• A.Moosavian, Alireza Hosseini, S.M.Jafari, I.Chitsaz, S.B.Shokouhi
• Journal: Automotive Science and Engineering 2022
- ER 2022 **Development of Machine Vision System to Track Movement of an Engine Timing Belt Tensioner Based on Deep Neural Network**
• Alireza Hosseini, Moosavian Ashkan, Saeed Javan, Shahriar B Shokouhi
• Journal: The Journal of Engine Research 2022

EXPERIENCE

- 7/2022 – now **Artificial Intelligence Developer** Adak Vira Iranian Rahjoo (AVIR)
• Expertise in AI/ML, including LLMs, vision-language models (LVMs), saliency-map prediction, OCR, TTS, ASR, RAG, motion capture, pose estimation, and time-series prediction. Proficient in deploying solutions using FastAPI, Triton, Docker, and fine-tuning advanced models (diffusion, GANs, XLSTM). Developed systems for video/audio processing, data analysis, and document/query automation.
- 1/2023 – 11/2023 **Artificial Intelligence Developer** University of Tehran
• Project: Eye Tracking, Neuromarketing
• Supervisor: Dr. Mohammad Ali Akhaee, Associate Professor at the University of Tehran

12/2021 – 09/2022	Artificial Intelligence Developer <ul style="list-style-type: none"> Project: Persian HandWritten OCR Supervisor: Dr. Mohammad Ali Akhaee, Associate Professor at the University of Tehran 	University of Tehran
7/2021 – 7/2022	Computer Vision Researcher <ul style="list-style-type: none"> Detection and diagnosis of internal combustion engine accessories belt - Deep learning Approaches 	Iran Khodro Powertrain Company (IPCO)

TEACHING EXPERIENCE

Fall 2024	Machine Learning - Dr. N Araabi, Dr. A. Dehaqani	University of Tehran
Spring 2024	Machine Learning - Dr. A. Dehaqani, Dr. Tavassolipour	University of Tehran
Spring 2024	Blind Source Separation - Dr.Akhavan	University of Tehran
Fall 2023	Machine Learning - Dr. N Araabi, Dr. A. Dehaqani, Dr. Tavassolipour	University of Tehran
Spring 2022	Advance Logical Circuit - Dr. Mirzakuchaki	Iran University of Science and Technology
Fall 2021	Logical Circuit - Dr. Mirzakuchaki	Iran University of Science and Technology

PROFESSIONAL SERVICES

01/2025	Journal Reviewer for IEEE Transactions on Consumer Electronics
08/2024	Journal Reviewer for IEEE Transactions on Multimedia
10/2021	Journal Reviewer for PLOS ONE

RELATED COURSES

Fall 2023	Analysis and Design of Deep Neural Networks [Github] <ul style="list-style-type: none"> Dr. Kalhor and Dr. N Araabi, Grade: 19.6/20 	University of Tehran
Fall 2023	Deep Generative Models [Github] <ul style="list-style-type: none"> Dr. Tavassolipour and Dr. Sadeghi, Grade: 19.6/20 	University of Tehran
Spring 2022	Machine Learning [Github] <ul style="list-style-type: none"> Dr. A. Dehaqani, Dr. Tavassolipour, Grade: 20/20 	University of Tehran
Fall 2022	Blind Source Separation <ul style="list-style-type: none"> Dr. Akhavan, Grade: 18.6/20 	University of Tehran
Fall 2022	Deep Learning <ul style="list-style-type: none"> Dr. Kalhor, Grade: 18.5/20 	University of Tehran
Fall 2022	Information Theory and Learning <ul style="list-style-type: none"> Dr. Sabbaghian, Grade: 18.9/20 	University of Tehran
Spring 2021	Digital Signal Processing <ul style="list-style-type: none"> Dr. B Shokouhi, Grade: 20/20 	Iran University of Science and Technology

CERTIFICATIONS

10/2023	Introduction to Generative AI	Coursera
10/2021	Build Basic Generative Adversarial Networks (GANs)	Coursera
08/2021	Deep Neural Networks with PyTorch	Coursera
08/2021	Advanced Computer Vision with TensorFlow	Coursera
06/2021	Deep Learning A-Z™: Hands-On Artificial Neural Networks	Udemy
04/2021	Complete Python Bootcamp from Zero to Hero in Python	Udemy

LANGUAGES

English - Professional working proficiency, **Persian** - native