



ALIREZA HOSSEINI


AI Developer

 Website

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RESEARCH INTERESTS

- Deep Learning, Computer Vision
- Saliency Map Prediction, Cognitive science
- Implicit Neural Representation
- Generative Models, OCR

SKILLS

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

AI Tools: PyTorch, OpenCV, TensorFlow, NPM.

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

EDUCATION

9/2022 - 9/2024	Master of Science - MS, Telecommunication Systems 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	University of Tehran
9/2017 - 3/2022	Bachelor of Science - BS, Electrical and Electronics Engineering 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	Iran University of Science and Technology
9/2013 - 9/2017	High School Diploma, Mathematics	National Organization for Development of Exceptional Talents (Sampad)

PUBLICATIONS

WACV2025	SUM: Saliency Unification through Mamba for Visual Attention Modeling • Alireza Hosseini, Amirhossein Kazerouni, Saeed Akhavan, Michael Brudno, Babak Taati	Github
Arxiv 2024	Brand Visibility in Packaging: A Deep Learning Approach for Logo Detection, Saliency-Map Prediction, and Logo Placement Analysis • Alireza Hosseini, Kiana Hooshanfar, Pouria Omrani, Reza Toosi, Ramin Toosi, Zahra Ebrahimian, Mohammad Ali Akhaee • Submitted to Applied Soft Computing Journal	Github
WACV 2024	INCODE: Implicit Neural Conditioning with Prior Knowledge Embeddings • Amirhossein Kazerouni, Reza Azad, Alireza Hosseini, Dorit Merhof, Ulas Bagci	Github
ICWR 2024	Hybrid Retrieval-Augmented Generation Approach for LLMs Query Response Enhancement • Pouria Omrani, Alireza Hosseini, Kiana Hooshanfar, Zahra Ebrahimian, Ramin Toosi, Mohammad Ali 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 • Ashkan Moosavian, Alireza Hosseini, Seyed Mohammad Jafari, Iman Chitsaz, Shahriar Baradaran 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 • Saliency-map prediction, OCR, TTS, ASR, RAG, Motion Capture, Pose Estimation, Data analysis, Wav2lip, Scanner Module, Diffusion model, Timeseries prediction, Cartoonize video, Fast-API, Triton, Dockerize, etc	Adak Vira Iranian Rahjoo (AVIR)
1/2023 – 11/2023	Artificial Intelligence Developer • Project: Eye Tracking, Neuromarketing • Supervisor: Dr. Mohammad Ali Akhaee, Associate Professor at the University of Tehran	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

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