Mohammadhossein **Salari**

Computer Vision Researcher

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CV Updated on May 2025

Note: Everything in this color is a link

Summary

Computer Vision researcher specializing in eye-tracking, deep learning, and embedded systems. Background in both computer science and electrical engineering, with experience in applied AI, remote sensing, and hardware prototyping. Seeking opportunities to apply technical expertise to real-world challenges in research or industry.

Skills

Key Skills:	Eye-tracking, Real-time embedded algorithms, Signal acquisition and processing, Machine Learning and Deep Learning, Hardware prototyping and integration, Data analysis
Programming	Python, C, C++, Golang, MATLAB
AI & ML	PyTorch, TensorFlow/Keras, scikit-learn, Pandas, NumPy, OpenCV
Libraries	Beautiful Soup, Scrapy, Selenium, Matplotlib, Plotly, SQLite, Elasticsearch
Web	CSS, HTML, Flask, Django
Electrical Engineering	ARM Cortex-M3 family (STM32x), ESP8266, ESP32, Arduino, AVR (Atmega & Attiny family), STM8, Raspberry Pi, EaglePCB, LoRaWAN
Other	Git, Linux, LaTex

Work Experience

Feb 2019 – Feb 2021

CTO and Co-Founder, *Quarkomm Startup,* Tehran, Iran

Co-founded Quarkomm to develop prototypes based on Narrowband IoT (NB-IoT) technology. Led the creation of various devices, including an optical infrared reading cable, a LoRaWAN-based smart streetlight, and an image processing-based reverse vending machine, among others.

Aug 2018 – Oct 2019

Head of R&D Department, *SEP Co.,* Tehran, Iran

Led development of infrastructure for smart meters and data transmission over a LoRaWAN network. Designed a general-purpose firmware platform for low-power, remote measurement devices.

Apr 2016 – Jan 2017

R&D Electrical Engineer, *Abr Network Startup,* Tehran, Iran

Developed a user-friendly educational system for teaching electronics to children. Built two prototype sets: one based on STM32 microcontrollers with CAN connectivity, and another using ESP8266 with wireless communication.

Education

Jun 2023 – Present

Doctoral researcher, *University of Eastern Finland*, Joensuu, Finland

MSCA Eyes for Information, Communication, and Understanding (Eyes4ICU) project.

Thesis Title: DC 3: Effective and Robust Predictive Gaze-Based Models in the Wild.

Sep 2018
Sep 2021

Master of Science, *Islamic Azad University, Shiraz Branch*, Shiraz, Iran
Artificial Intelligence and Robotics **Rank:** 1st in the class, **CPA:** 19.79/20

Thesis Title: Automated detection of dam locations in satellite imagery and monitoring of reservoir changes using deep neural networks.

Highlights: Created custom datasets for training and evaluation; applied deep learning-based object detection methods (**YOLOv5**, **Faster R-CNN**, **RetinaNet**) and image classification models (**VGG**, **ResNet**, **DenseNet**) for dam detection; implemented classical image processing techniques for reservoir change monitoring.

Sep 2011
Jul 2016

Bachelor of Science, *Shiraz University of Technology*, Shiraz, Iran
Electrical Engineering **GPA:** 14.37/20

Final project: Reverse vending machine using ARM Cortex-M microcontroller and barcode reader.

Highlights: Selected by the university for presentation at the 17th Exhibition of Research and Technological Achievements

Publications

Salari, MH., & Bednarik, R. (2024). *Investigating the Impact of Illumination Change on the Accuracy of Head-Mounted Eye Trackers: A Protocol and Initial Results*. 9th International Workshop on Pervasive Eye Tracking and Mobile Eye-Based Interaction (PETMEI).

Salari, MH., Shayegan, MA., & Faraji, F. (2024). *Automatic Location of Carvanserais in Satellite Images Using Image Processing Techniques Based on Deep Learning*. Journal of Circuits, Data and System Analysis (JCDSA).

Salari, MH., Shayegan, MA., (2024). *Improving the detection of spam in Persian SMS by providing a comprehensive database*. Paper presented at the First National Conference Data Analysis, Yasuj.

Work-in-Progress

Salari, M.H., Niehorster, D.C., Nyström, M., & Bednarik, R. *The Effect of Pupil Size on Data Quality in Head-Mounted Eye Trackers*.

Awards and Honors

Oct 2022

IEEE GRSS IADF School, *IEEE Geoscience and Remote Sensing Society, Online*

Selected as one of 85 participants (from over 700 applicants) for the inaugural IEEE GRSS IADF School on Computer Vision for Earth Observation.

Mar 2022
May 2022

AI Bootcamp, *School of Artificial Intelligence, Pi School*, Rome, Italy

Awarded a full scholarship to participate in an intensive AI bootcamp. Contributed to two industry-backed projects: one on generating 3D facial animations from audio and text, and another on estimating vehicle fuel levels using On-Board Diagnostics (OBD) data.

Since 2020

Member of Young Researchers and Elite Club.

Languages

Farsi: Native

English: C2 Proficient (EF SET Score: 82/100)