Majid Farzaneh

Artificial Intelligence Engineer

Contact

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Summary

I have had +9 years of experience in Artificial Intelligence (Vision, NLP, Audio, Data Science, and Evolutionary Computation) as a freelancer, researcher, team member, team manager, and founder. I've been in +200 research and +20 business projects with real-world challenges. I like to solve problems, I love learning and growing, and I enjoy competition.

Work Experiences

Founder and Machine Vision Engineer at AdRuler.ir

November 2022 – Present

- Development of different machine vision models such as:
    - Face detection.
    - Age estimator.
    - Gender recognition.
    - Facial expression recognition.
    - Face pose detection (looking/not looking).
    - Human tracking.
- Working with software engineers to integrate the AI models with the client software and online platform.
- Developing out-of-home campaign success predictor, to estimate the effectiveness of an ad poster, before execution.
- Developing an evolutionary computing algorithm to optimize the campaign design and media planning.

Founder at BE5T.ir Platform

January 2023 – Present

- Launching and managing an educational platform.
- Product ownership and enhancing the user experience.
- Achieving a 5-month streak in income growth and user growth.
- Getting more than 2200 users on the platform and +1k followers on social media (LinkedIn).
- Helping +20 teachers earn money on the platform.

Data Scientist at Bonyad Farhang Zendegi (Contract)

November 2023 – Present

- Analyzing the company datasets.
- Visualizing the data and summarizing the reports.
- Developing an offline recommender system to optimize the SMS and email marketing based on customer historical purchases.

Artificial Intelligence Engineer at HealthCareIT.ir (Contract)
September 2023 – November 2023

- Development of a smart shift scheduler for hospitals, based on Evolutionary Computation that improved the section's quality of services by more than 50% with less than 5% change in personal work-life balance.

Machine Learning Engineer at Barande.ir (Contract)
January 2023 – October 2023

- Modeling a Real-State price estimator based on available online ads data, using random forest with a mean absolute error tolerance of less than 10%.
- Building a text spam filtering model based on word embedding and Long Short-Term Memory with an f1-score of 97% for the Persian language.
- Development of 6 computer vision modules for NSFW/nudity detection, watermark detection, face and license plate blurring, house/apartment section validation, and empty/furnished home classification mainly based on Convolutional Neural Networks.
- Creating an image fingerprinting algorithm for repetitive image recognition that helped to remove more than +2GB of images in the database and also helped to find some fraud Ads.

CEO and Co-founder at HODA Technology Company
October 2020 – January 2023

- Getting +10 business contracts on Artificial Intelligence projects and managing to build 4 products for the company.
- Developing the ISSS software that integrates 5 computer vision modules to be used in surveillance systems; i.e. human detection and tracking, access control based on face recognition, anomaly detection, and video summarization (contract).
- Designing a paintball aiming and firing robot based on computer vision (the company product).
- Crystal analyzer software implementation, based on semantic segmentation with F1-Score=0.985 (contract).
- Developing a decision support system software for a provincial road construction organization to prioritize road repair projects using AHP and evolutionary computation (contract).
- Concrete structure cost optimization using MATLAB, ETABS, and Genetic Algorithm that reduces the rebar cost of a normal building by more than 17% on average (contract).
- Making a fraud detection module in real-state Ads based on image, text, actions, and general features of the Ads, using a huge feature engineering and ensemble learning with roc-auc = 0.82 (contract).
- Developing a real-time image processing algorithm to control the quality of ceramic tiles in the manufacturing process (contract).

Freelance Researcher and Developer
March 2014 – October 2020

- +200 research ideas in different fields of artificial intelligence, such as machine learning/deep learning, evolutionary computation, image processing and computer vision, audio engineering, NLP, and data science (mostly developed in MATLAB).
- Data analysis and visualization for companies using Power BI, excel, and MATLAB.
- And lots of other projects that helped me understand different aspects and sides of engineering and business.

Other Startup Founding (Failed):

- GAGmusic: an automatic music generation robot, based on a genetic algorithm (GenX start-up competition hosted by Tapsel - 2023).
- Chatpack: an integrated chat tracker for online tractions containing chat health measurement, traction probability estimator, and sentence predictor (Fusion start-up competition hosted by Divar and Javane VC – 2022).
- Expert Birds: an online freelancing platform (2020).

Skills

Programming languages:

- MATLAB.
- Python.

Machine Learning/Deep Learning libraries:

- Numpy – pandas – sklearn.
- Tensorflow – keras – MATLAB toolboxes for ML/DL/RL.

Database:

- SQL.

Other skills:

- Optimization/meta heuristic/ evolutionary algorithms.
- Power BI.
- GIT.
- ONNX.
- Simulink.
- Object Oriented Programming and GUI design in MATLAB.

Education

Master of Science: Audio Engineering

2017-2019

Iran Broadcasting University - Tehran.

Dissertation Title: Automatic Music Generation using an Interactive Evolutionary Algorithm and Long Short-Term Memory.

Bachelor of Science: Electrical Engineering – Electronics

2009-2014

Jundi-Shapour University of Technology - Dezful.

Research Background

Google Scholar

- Citations: 56.
- H-index: 4.
- i10-index: 3.

Publications

- Farzaneh, Majid. "Arcface Knows the Gender, Too!". https://arxiv.org/abs/2112.10101 .
- Majid Farzaneh, and Rahil Mahdian Toroghi. "GGA-MG: Generative Genetic Algorithm for Music Generation". https://arxiv.org/pdf/2004.04687.
- Farzaneh, Majid, and Rahil Mahdian Toroghi. "Robust Audio Watermarking Using Graph-based Transform and Singular Value Decomposition." 2020 10th International Symposium on Telecommunications (IST). IEEE, 2020. (Oral Presentation – Best Paper), Link: https://ieeexplore.ieee.org/document/9345876 .
- Farzaneh, Majid, and Rahil Mahdian Toroghi. "Music Generation Using an Interactive Evolutionary Algorithm." Mediterranean Conference on Pattern Recognition and Artificial Intelligence. Springer, Cham, 2019. (Oran Presentation), Link: https://link.springer.com/chapter/10.1007/978-3-030-37548-5_16.
- Farzaneh, Majid, Rahil Mahdian Toroghi, and Mohammad Asgari. "Audio Compression Using Graph-based Transform." 2018 9th International Symposium on Telecommunications (IST). IEEE, 2018. Link: https://ieeexplore.ieee.org/document/8661027.

Journal Review

- Springer, Evolutionary Intelligence (ORCID)

Awards

Organizers	Details
	Irancell Labs A.I. Hackathon Winner Some NLP and Data Science challenges https://quera.org/certificate/Ccgnz6Cm/
	DueML Chess Competition (March-April 2023): 1st place (Report Link) Computer vision challenges for chess game analysis and prediction
	Code Cup7 Data Science Path (2022): 1st place (Leaderboard) Some NLP and Data Science challenges

Divar-Javaneh Hackathon (2022): 2nd place ([Report Link](#))

Fraud detection in real estate ads on divar.ir

Innomine3 Mine Problem (2021): 1st place ([Leaderboard](#))

Computer vision challenge to analyze the mining results automatically

Football Data Science Competition (2021) – 1st place ([Leaderboard](#))

Data Science challenges: football data analysis, predicting the goal probability, etc.

IRIB University Best Thesis Award – 2019

Perfect grade for the thesis; title: Music generation using an interactive evolutionary algorithm