Hamid MOHAMMADI

Personal Information

BIRTH:	Iran | 23 July 1996
RESIDENCE:	Tehran, Iran
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Work Experience

OCT 2021 - PRESENT

Computer Vision Engineer: FarazPardazan

My focus here was to develop web and mobile friendly computer vision solutions for automated identity evaluation and optical information extraction. I am involved in projects Face Detection and Recognition, Liveness Detection, Visual Brand Identification, Credit and ID card OCR

Website: Farazpardazan.com

JULY 2019 - SEP 2021

Computer Vision Engineer: Sensifai

Building intelligent **surveillance** services, I was involved in several projects including **face detection and recognition**, **fire detection**, **violence detection**, **object detection**, **motion localization**, and so forth. Moreover, I participated in designing and implmenting efficient **real-time hardware-accelerated multi-stream video analysis** tools.

Website: Sensifai.com \| Sentiligence.com

NOV 2016 - SEP 2017

Junior Big-Data and Artificial Intelligence Engineer: Yooz Search Engine

My task as an artificial intelligence **Engineer** in this company was to help the web search team attain its goals by designing and implementing artificial intelligence solutions mainly related to Natural Language Processing and Machine learning. Some of these projects are **Duplicate and near-duplicate document detection in big data applications**, which mainly was about dimensionality reduction, and **Persian text difficulty assessment** and **Persian transliteration**, which were implemented in Big-Data environments.

Website: Yooz.ir

SEP 2016 - NOV 2016

Summer Internship: Yooz Search Engine

In this summer internship, I worked on projects such as **Persian sentiment analysis**, **Persian text similarity measurement**, and **offensive words filtering**.

Website: Yooz.ir

SEP 2015 - AUG 2016

Android Developer: Noghteh Web Services

My primary goal in this company was to design and implement the "ClassPlus" android application, an educational management, and a self-assessment assistant.

Linkedin: Noghteh Web Services

Education

Sep 2019 - Present	**Amirkabir University of Technology**
	Master of Science, Artificial Intelligence
	Thesis: semi-supervised video violence recognition and localization
Sep 2014 - Dec 2018	**K. N. Toosi University of Technology**
	Bachelor of Science, Computer Engineering
	Thesis: text readability assessment using deep reinforcement learning

Computer Skills

Fluent Programming Languages	Python
Machine Learning Concepts	Deep Architectures (Classification, Regression, Transformers, Recurrent)
	Computer Vision (Classification, Detection, Vectorization)
	Natural Language Understanding (Classification, Vectorization)
	Reinforcement Learning (Q-Learning, DRL)
	Classical Models (SVM, Random Forest, ...)
Frameworks and Tools	Tensorflow + Keras (CPU-GPU)
	Scikit-learn
	OpenCV Python
	NumPy, SciPy, Matplotlib
	PyTest (tox)
	Docker
	DeepStream framework and tools
	GStreamer framework and tools
	FFmpeg
	TensorRT
	Setuptools
	Git/GitLab
	Latex
	CVAT
Also familar with	TenorflowLite
	ONNX
	TensorflowJS
	AWS Elastic Computing
	Celery
	Redis
Familiar Programming Languages	Java
	C/C++
	Assembly 8086
	C Embedded
	Matlab
	Javascript
Operating Systems	Linux (Ubuntu)

research experience

Hamid Mohammadi, Ehsan Nazerfard, "SSHA: Video Violence Recognition and Localization using a Semi-Supervised Hard-Attention Model"

Master Thesis, Submitted to Expert Systems with Applications Journal, | arXiv:2202.02212

Current human-based surveillance systems are prone to inadequate availability and reliability. Artificial intelligence-based solutions are compelling, considering their reliability and precision in the face of an increasing adaption of surveillance systems. The proposed model uses an I3D backbone pretrained on the Kinetics dataset and has achieved state-of-the-art accuracy of 90.4% and 98.7% on RWF and Hockey datasets, respectively. The semi-supervised hard attention mechanism has enabled the proposed method to fully capture the available information in a high-resolution video by processing the necessary video regions in great detail.

Hamid Mohammadi, Seyed Hossein Khasteh, "Text as Environment: A Deep Reinforcement Learning Text Readability Assessment Model"

Preprint | arXiv:1912.05957

Deep reinforcement learning models are demonstrated to be helpful in further improvement of state-of-the-art text readability assessment models. The main contributions of the proposed approach are the automation of feature extraction, loosening the tight language dependency of text readability assessment task, and efficient use of text by finding the minimum portion of a text required to assess its readability. The experiments on Weebit, Cambridge Exams, and Persian readability datasets display the model's state-of-theart precision, efficiency, and the capability to be applied to other languages.

Hamid Mohammadi, Seyed Hossein Khasteh, Amin Nikoukaran, "A Machine Learning Approach to Persian Text Readability Assessment Using a Crowdsourced Dataset"

Accepted at 2020 28th Iranian Conference on Electrical Engineering (ICEE) | arXiv:1810.06639

In the present research, the first Persian dataset for text readability assessment was gathered and the first model for Persian text readability assessment using machine learning was introduced. The experiments showed that this model was accurate and could assess the readability of Persian texts with a high degree of confidence.

Hamid Mohammadi, Seyed Hossein Khasteh, "A Fast Text Similarity Measure for Large Document Collections Using Multi-reference Cosine and Genetic Algorithm"

Published at Turkish Journal of Electrical Engineering Computer Sciences | TJEECS

In this paper, a new signature-based approach to text similarity detection is introduced which is fast, scalable, reliable and needs less storage space. The proposed method is examined on popular text document data-sets such as CiteseerX, Enron, Gold Set of Near-duplicate News Articles and etc. The results are promising and comparable with the best cutting-edge algorithms, considering the accuracy and performance.

Hamid Mohammadi, Amin Nikoukaran, "Multi-reference Cosine: A New Approach to Text Similarity Measurement in Large Collections"

Preprint | arXiv:1810.03099

In this paper, a new approach to batch text similarity detection is proposed by combining some ideas from dimensionality reduction techniques and information gain theory. The new approach is focused on search engines need to detect duplicated and near-duplicated web pages.

Teaching Experience

Teaching Assistant	Theory of Formal Languages and Automata Oct 2017 - Feb 2018, Sep 2018 - Feb 2019
	Computer Structure and Language Oct 2017 - Feb 2018, Feb 2018 - Jun 2018, Sep 2018 - Feb 2019
	Principles of Compiler Design Feb 2018 - Jun 2018
	Computer Networks Feb 2018 - Jun 2018
	Computer Architecture Oct 2017 - Feb 2018

Languages

Persian:	Native
English:	Full professional proficiency TOEFL-iBT: 106/120 (Sep 2018) Reading: 29, Listening: 30, Speaking: 23, Writing: 24