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Sara S.M Tehrani

Machine Learning Engineer



SUMMARY

MSc. graduated in AI with 2+ years of experience in researching and building applied machine learning applications focused on web crawlers. Cooperation in smart search engine startup with 168,000 active users and 680,496 active products. I am interested in cutting-edge technology, researching, and applying AI algorithms to solve real-world problems. Finally, I attempt to think critically and enjoy being creative, innovative, and team-oriented.

KEY SKILLS

- **ML Algorithms**
- **Predictive Analysis**
- **Data Visualization**
- **Data Collection & Analytics**
- **Machine Vision**
- **Data Visualization**
- **Model Enhancement**
- **Web Crawling**
- **Dashboard Creation**

TECHNICAL SKILLS

- **Tools & Languages:** Python, C/C++, JavaScript, PostgreSQL, Apache Storm, Apache Solr, Linux,
- **Packages:** Scikit-Learn, NumPy, SciPy, Pandas, SciKit-Learn, Streamparse, BeautifulSoup, PySolr, Matplotlib, OpenCV, Request, Jupyter Notebook, PyAudioAnalysis, FastAPI, Twint
- **Machine Learning:** Clustering, Classification
- **Deep Learning:** PyTorch, Keras, CNN, GANs, LSTM

PROFESSIONAL EXPERIENCE

Machine Learning Engineer

Feb 2019 - Present

ToobaTech Company

Tehran, IR

Artificial Intelligence Lab, 2015 Until now

Project 1: SnapMode (Iranian Smart Fashion Search Engine)

- Developed a distributed web crawling system using Apache Storm, Apache Solr, and Streamparse to extract fashion data from E-commerce websites (**+10M Product Pages**)
- Enhanced the content-based image retrieval capability using a state-of-the-art Generative Adversarial Networks (InfoGAN) to feature vector extraction. (**67% accuracy** on the in-shop products)

Project 2: Rasad (University News Analysis and Tracking System)

- Designed and developed a distributed web crawling system to extract data from news agencies' websites in the last decade (**+6M news pages**)
- Developed a social media scraping system for Twitter, Instagram, and LinkedIn
- Improved BERT model for sentiment analysis for negative comments detection with **82% accuracy** rate. (Focusing on university news)
- Designed and implemented an analytical dashboard using FastAPI and Vuejs

Researcher & Developer

Feb 2015 - Nov 2018

SAADAT Company

Tehran, IR

Patient monitoring system producer, 1998 until now

- C and C++ Developer of Central monitoring system.

EDUCATION

M.Sc. in Artificial Intelligence

Feb 2018 - Oct 2021

Alzahra University

Tehran, IR

Ranked 1st among the postgraduate students of Artificial Intelligence in Computer Engineering Department at Alzahra University with GPA: 18.33/20.

- **Thesis:** Texture synthesis in the image to image translation in the field of fashion AI using Generative Adversarial Networks
- **Supervisor:** [Dr. Reza Azmi](#)
- **Course Projects:**
 - **Neural Networks (20/20)** | Gender and Style Detection | Crawling Instagram profile images(selenium) and making dataset | Face detection (OpenCV) | Fine-Tuning ResNet50, DenseNet, SeNet, and Vgg19 (Keras platform) on our dataset.
 - **Pattern Recognition (20/20)** | OCR Persian Alphabet | Feature extraction using by LOCI algorithm | Dimension reduction by Singular Value Decomposition(SVD) | Classification by Naive Bayesian classifier.
 - **Advanced Data Mining (18.5/20)** | Multimodal Predicting the Severity of Covid-19 Patients using deep learning | Data gathering includes CT images and clinical data from Imam Hussain Hospital, Tehran, Iran | Preprocessing data: imputation(with KNN), feature extraction(PCA), data visualization(TSN-E algorithm) | Creating 3D CNN model for CT images | Fusion the CT and clinical data by proposed deep model
 - **Image Processing (20/20)** | Segmentation of Left Ventricle in MRI Cardiac Images | Proposed the deep CNN model for medical image segmentation | Improved by 5%, 3.5%, 8.1%, and 11.4% compared to its deep alternatives in terms of Jaccard, Dice, Precision, and FPR indexes, respectively
- **Publications:**
 - Narges Norouzi, Reza Azmi, Maral Zarvani, **Sara Saberi Moghadam," SnapMode: Distributed Large-scale Fashion Image Retrieval Platform based on Big Data and Deep Learning Technologies,"** Submitted to Big Data Research Journal, October 2021.
 - Narges Norouzi, **Sara Saberi Moghadam**, Maral Zarvani, **"CBIR-GAN: A Triplet Generative Adversarial Network for Content-based Image Retrieval"** Submit- ted to Expert Systems With Applications, December 2021.
 - **Sara Saberi Moghadam**, Reza Azmi, Maral Zarvani, **"WBT-GAN: Wavelet-based Generative Adversarial Network for Texture Synthesis,"** 11th International Conference on Computer and Knowledge Engineering (ICCKE), Mashhad, Iran, 2021, pp. 1-last page
- **Conferences:**
 - 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'20), 20-24 July 2020, Montreal, Canada
 - 11th International Conference on Computer and Knowledge Engineering (ICCKE 2021), October 28-29, 2021, Ferdowsi University of Mashhad, Iran

B. Sc. Computer Engineering (Software)

Feb 2011 - Oct 2015

Abrar University

Tehran, IR

GPA: 15.95/20

- **Thesis:** Designed a website.

CERTIFICATIONS

- **Machine Learning Certification** | Coursera
- **Python Certification Training** | AmirKabir University

ADDITIONAL INFORMATION

- **Languages:** English (Advance) and Persian (Native)