

MAHTAB SARLAK

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EDUCATION

Shahid Beheshti University *Tehran, Iran*
Master of Computer Engineering - Artificial Intelligence and Robotics *2021 - Present*

- Overall GPA: 18.29/20 (3.79/4)
- Thesis: Personalized image tag refinement by leveraging knowledge graphs

Shahid Beheshti University *Tehran, Iran*
Bachelor of Science in Computer Engineering *2017 - 2021*

- Overall GPA: 18.64/20 (3.93/4)
- Among **Top 10%** of the students in the Computer Engineering department
- Thesis: Vector Embedding of Persian Verbal Multiword Expressions

Farzanegan 7 High School *Tehran, Iran*
Diploma in Mathematics and Physics *2013 - 2017*

HONORS AND AWARDS

- Granted admission from Talented Student Office of Sharif University of Technology for Master of Computer System Architecture. *Summer 2021*
- Granted admission from Talented Student Office of Shahid Beheshti University for master of Artificial Intelligence. *Summer 2021*
- Granted admission from Talented Student Office of Khajeh Nasir Toosi University for master of Artificial Intelligence. *Summer 2021*
- Ranked 6th among B.Sc. students in the Computer Engineering department, Shahid Beheshti University. (In top 10% in faculty) *Summer 2021*
- Ranked in the top 5% in the university entrance examination in Iran among about 150,000 participants. *Summer 2017*

RESEARCH INTERESTS

- Computer Vision
- Deep Learning
- Natural Language Processing
- Machine Learning

RESEARCH EXPERIENCE

Personalized Image Tag Refinement by Leveraging KGs *July. 2022 - Present*
Under supervision of Professor Mohsen Ebrahimi Moghaddam, CV Lab, Shahid Beheshti University, Under Preparation

Proposed a system based on multi-label classification and transformer-based sequence generation, which considers KG and user history information to generate personalized

and unseen tags for social media images.

Persian Multiword Expressions(MWEs)

July. 2022 - Present

Under supervision of Professor Mehrmoush Shamsfard, NLP Lab, Shahid Beheshti University, Professor Agata Savary, LISN Laboratoire, Université Paris-Saclay, Professor Carlos Ramisch, LIS-TALEP Laboratoire, Aix-Marseille University, Under Preparation

Expanded Farsi PARSEME(PARSing and Multi-word Expressions) corpus.

Identification & Embedding of Persian Verbal MWEs

March 2021 - Sept. 2021

Under supervision of Professor Shamsfard, NLP Lab, Shahid Beheshti University, Under Preparation

Innovated a deep learning system for automatic identification of Verbal MWEs(VMWEs) and generated word embedding that capture VMWE's semantic meaning, which is evaluated by predicting the compositionality of VMWEs.

NOTICEABLE UNDERGRADUATE PROJECT

Counting and classifying car using vision image transformer *Deep Learning Course*
Under supervision of Dr Hamed Malek *June. 2022*

Innovated a model based on transfer learning by vision transformer to classify Iranian cars, which are gathered by an online crawler. Proposed YOLO object detection model for counting[[LINK](#)]

Stock Price Prediction

Deep Learning Course

Under supervision of Dr Hamed Malek

June. 2022

Predicted stock price by solving a time-series problem using RNN-based networks.[[LINK](#)]

Image Colorization

Deep Learning Course

Under supervision of Dr Hamed Malek

June. 2022

Solved the image colourization task as a pixel-wise classification problem using different U-Net-like networks.[[LINK](#)]

Persian Analogy Evaluation

Natural Language Processing Course

Under supervision of Professor Shamsfard

Jan. 2022

Introduced language models for solving SAT-based analogy tests in Persian.[[LINK](#)]

Medical image segmentation

Image Processing Course

Under supervision of Professor Ebrahimi Moghaddam

Jan. 2022

Segmented medical images using U-NET based models on four datasets.[[LINK1](#), [LINK2](#)]

Play store application comment classification

Data Mining Course

Under supervision of Dr Alireza Talebpour

Spring 2021

Predicted score(0-5) that is given to an application based on the user's comment using machine learning models and clustering algorithms on data gathered by an online crawler.
[[LINK](#)]

News topic classification

Computational Intelligence Course

Under supervision of Dr Hamed Malek

Dec. 2020

Classified Persian news categories using different machine learning models, RNN models, and BERT model.

Facial expression recognition

Computer Vision Course

Under supervision of Dr Alireza Talebpour

Nov. 2020

Proposed CNN models to recognize facial expressions.[[LINK](#)]

Emergency assistant

Internet Engineering Course

Under supervision of Dr Seyyed Ehsan Mahmoudi

July 2020

Developed a website for informing local forces about needed supplies for affected areas using React, NodeJs, GraphQL, and Mongo-DB [[LINK](#)]

WORK EXPERIENCE

React Front-End Developer

part-time software developer

Java Back-End Developer

part-time software developer

English Teacher

part-time

*Iran Tourism Information Technology**April 2021 - Present**Iran Tourism Information Technology**April 2020 - April 2021**Hermes institute**June 2014 - February 2017***TEACHING ASSISTANT**

Machine Learning at Shahid Beheshti University*Fall 2022**Tutorials and Assignment Grading - Under supervision of Dr. Hamed Malek***Computer Vision** at Shahid Beheshti University*Spring 2021**Tutorials and Assignment Grading - Under supervision of Dr Yaser Esmaeili Salehani***Compiler** at Sharif University of Technology*Spring 2021**Tutorials and Assignment Grading - Under supervision of Professor Ghassem Jaberipur***Compiler** at Shahid Beheshti University*Fall 2019**Head TA - Under the supervision of Professor Ghassem Jaberipur***Automata Theory and Languages** at Shahid Beheshti University*Fall 2019**Tutorials and Assignment Grading - Under supervision of Dr. Hakimeh Fadaei***Machine Learning** at Shahid Beheshti University*Summer 2019**Organizing a summer course for fundamental of machine learning - Under the supervision of Dr. Hamed Malek***SKILLS**

Technical:

Java, Python, JavaScript, MySQL

Theoretical:

Machine Learning, Deep Learning, Data structures, Computer vision, Natural language processing

Packages and Tools:

Spring, React, Redis, PyTorch, Keras, Tensorflow

Operating Systems:

Linux(Ubuntu), Windows

Languages:

Persian(Mother's tongue)

English: IELTS Overall 8.0(Reading:9.0, Listening: 9.0, Writing: 6.5, Speaking: 6.5)