Mersad **Esalati**

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"Be the change that you want to see in the world."

Education

University of Tehran   *Tehran, Iran*

MASTER OF SCIENCE IN ARTIFICIAL INTELLIGENCE AND ROBOTICS   *Sep. 2020 - Sep. 2023*

- Thesis Title: **Unsupervised Parallel Corpus Creation using eBooks for Persian-English**
- Overall: **18.84/20** (Overall GPA: **4/4**).
- Selected Courses:
  - Machine Learning **19.30/20**
  - Neural Networks and Deep Learning **19.72/20**
  - Natural Language Processing **18.50/20**
  - Massive Data Analysis and Systems **18.50/20**

Ferdowsi University of Mashhad   *Mashhad, Iran*

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING   *Sep. 2015 - Jan. 2020*

- Thesis Title: **Review TTS System with Focus on Tacotron2**
- Overall: **17.51/20** (Overall GPA: **3.57/4**).
- Selected Courses:
  - Artificial Intelligence and Expert Systems: **19.75/20**
  - Data Structures and Algorithms: **18.30/20**

Field of Interest

RESEARCH

- Machine Leaning & Deep Learning
- Natural Language Processing
- Deep Generative Model

APPLICATION

- Neural Machine Translation
- Large Language Model

Skills

Programming	Python, Java, Bash Script
Soft Computing	PyTorch, Keras
Big Data	Hadoop, Airflow, Kafka, Spark
DevOps	Linux, Docker
Development Tools	Git
Languages	Persian (native), English (fluent)

Research Experience

University of Tehran   *Tehran, Iran*

RESEARCHER AT NLP LAB   *Jun. 2021 - Sep. 2023*

- Neural Machine Translation
- Sentence Alignment
- Parallel Corpus Creation

Teaching Experience

University of Tehran   *Tehran, Iran*

TEACHER ASSISTANT

- **Natural Langugage Processing**, presented by Dr. H. Faili.
- **Neural Networks and Deep Learning**, presented by Dr. A. Kalhor.
- **Massive Data Analysis and Systems**, presented by Dr. M. J. Dousti.

HooshBaaz Summer School   *Tehran, Iran*

MENTOR

- Educating Students During 14 Workshops on Data Analytics and Machine Learning.

Ferdowsi University of Mashhad   *Mashhad, Iran*

TEACHER ASSISTANT

- **Artificial Intelligence**, presented by Dr. S. Abrishami.
- **Data Structures**, presented by Dr. K. Ghiasi-Shirazi.

Work Experience

Part Software Group
DATA SCIENTIST
Mashhad, Iran
Jul. 2023 - PRESENT
- Develop and Deploy Image Classification and Object Detection Models

Faraazin
MACHINE LEARNING ENGINEER
Tehran, Iran
Jan. 2022 - Apr. 2023
- Develop Pipeline for Parallel Corpus Creation via Sentence Alignment
- Train and Deploy Various Neural Machine Translation Models for Different Domain

Ferdowsi Cloud Laboratory
BACK-END DEVELOPER
Mashhad, Iran
Jun. 2019 - Jun. 2017
- Develop Server for Working with Openstack Services
- Deploy Openstack Cluster

Rajman Information Structures
ANDROID DEVELOPER
Mashhad, Iran
Jul. 2018 - Dec. 2019
- Worked on "Neshan Navigator" android client.
- Develop Bus Live Location Feature
- Develop Multi Language Feature

Academic Project Highlights

LunarLander
COURSE PROJECT OF REINFORCEMENT LEARNING
Tehran, Iran
Dec. 2021
- Solve LunarLander environment using DQN model

Frozen Lake Path Planning
COURSE PROJECT OF REINFORCEMENT LEARNING
Tehran, Iran
Dec. 2021
- Implement model-free algorithm Off-Policy MC, Q-Learning, SARSA, N-Step Tree Backup for solving frozen lake problem.

Neural Machine Translation (NMT) for Persian-English Translation
COURSE PROJECT OF NATURAL LANGUAGE PROCESSING
Tehran, Iran
May. 2021
- Train transformer-based machine translation system using Fairseq/OpenNMT

Sentiment Analysis for Twitter Data using RNNs
COURSE PROJECT OF NATURAL LANGUAGE PROCESSING
Tehran, Iran
April. 2021
- Fine-tune transformer-based different embedding models like BERT, ElMo for classification of tweets

Classify CIFAR10 Dataset using Neural Networks in Keras
COURSE PROJECT OF NEURAL NETWORK AND DEEP LEARNING
Tehran, Iran
April. 2021
- Build and tune Convolutional Neural Network hyper-parameters then use Data Augmentation methods for improve model
- Fine tune EfficientNet for classify CIFAR10 (Transfer Learning)

Detecting Parkinson disease from speech signal with ensemble learning
COURSE PROJECT OF MACHINE LEARNING
Tehran, Iran
Dec. 2020
- Try dimensionality reduction using different method like PCA, LDA, auto-encoder and classify data using SVM and ensemble learning.

Solving a Board Game Based on Uninformed and Informed Search
COURSE PROJECT OF ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS
Mashhad, Iran
May. 2018
- Implemented Uninformed search algorithms (BFS, UCS, DFS and IDS) to solve the game.

Publications

ESPOSITO: An English-Persian Scientific Parallel Corpus for Machine Translation
Under-Review
SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING AT UNIVERSITY OF TEHRAN

Mersad Esalati, Hesham Faili and Mohammad Javad Dousti