

ALI SALAR

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🎂 Birthdate: January 8, 1998 – 📍 Address: Tehran, Iran

EDUCATION

K.N.Toosi University of Technology ([World university rankings 2023](#): 1001 – 1200th)

📍 Tehran, Iran

M.Sc. in Computer Engineering - Artificial Intelligence and Robotics

📅 2020 – 2023

- **M.Sc. Thesis:** Automatic Image Annotation using Deep Recurrent Convolutional Networks
- Supervisor: Dr. Ali Ahmadi
- **Cumulative GPA:** 18.02/20 (**US CGPA:** 4/4) - Top **20%** in the graduating class

K.N.Toosi University of Technology

📍 Tehran, Iran

B.Sc. in Computer Engineering

📅 2016 – 2020

- **B.Sc. Thesis:** Design and Implementation of Android Apartment Management Application using Web Services
- Supervisor: Dr. Ali Ahmadi
- **Cumulative GPA:** 17.34/20 (**US CGPA:** 3.80/4) - Top **25%** in the graduating class

FIELDS OF INTERESTS

- **Machine Learning:** *Deep Learning - Reinforcement Learning - Transfer Learning*
- **Image Processing and Computer Vision:** *Image Annotation - Multi-Label Classification - Object Detection - Image Segmentation - Medical Image Analysis - Image Generation - 3D point cloud segmentation*
- **Natural Language Processing:** *Sentiment Analysis - Machine Translation*
- *Software Engineering - Software Development - Data Mining*

PUBLICATIONS

- **A. Salar** and A. Ahmadi, “Enhancing high-vocabulary image annotation with a novel attention-based pooling”. ([DOI](#) and [Github link](#))
- **A. Salar** and A. Ahmadi, “Improving loss function for deep convolutional neural network applied in automatic image annotation”, **Visual Computer**, Accepted on **12 April 2023**. ([DOI](#) and [Github link](#))

HONORS AND AWARDS

- Straight M.Sc. of Artificial Intelligence **Admission**, from K. N. Toosi University of Technology (2020)
- Full Tuition Fee **Waiver**, from K. N. Toosi University of Technology (2016 – 2023)

CERTIFICATIONS

- **Machine Learning Specialization** (3 Courses), [Certificate link](#), 2022
- **Deep Learning Specialization - Sequence Model**, [Certificate link](#), 2021
- **Build Basic Generative Adversarial Networks (GANs)**, [Certificate link](#), 2021
- **Deep Learning with PyTorch: Neural Style Transfer**, [Certificate link](#), 2021

ACADEMIC AND WORK EXPERIENCE

Graduate Student Researcher (Full-Time)

📅 Feb 2022 – Sep 2023

Intelligent Information Processing Lab, Supervisor: Dr. Ali Ahmadi

Data Scientist at Telecommunication Infrastructure Company (Part-Time)

📅 Aug 2021 – Mar 2022

Analyzing **TIC's** customer churn rate under Dr. Ali Ahmadi's supervision

Teaching Assistant

📅 Feb 2020 – Jun 2020

TA for Computer Networks, Instructor: Dr. Fatemeh Rezaei

Head Teaching Assistant

📅 Feb 2019 – Jun 2020

TA for Algorithm Design, Instructor: Dr. Ali Ahmadi

Teaching Assistant

📅 Sep 2019 – Jan 2020

TA for Principles of Database Design, Instructor: Dr. Saeed Farzi

SELECTED PROJECTS

CNN - GCN - LSTM Image Annotation ([Github link](#) - [Github link](#) - [Github link](#))

- *Combination of some recent articles to assess and improve cutting-edge techniques for multi-label classification*
- *State-of-the-art CNNs as feature extractors, along with various Loss Functions*
- *Wasserstein-GAN for data augmentation*
- *Graph Convolutional Network (GCN) to model the label dependencies*
- *LSTM + Attention Mechanism to learn salient features in images*

LSTM Projects ([Github link](#))

- *Implementation of “name generation”, “emotion classification”, and “date translation” using LSTM architecture*
- *PyTorch*

Covid-19 Recognition ([Github link](#))

- *Implementation of a pre-trained CNN for the covid-19 recognition from chest X-Ray images*
- *PyTorch*

Pitch Detection ([Github link](#))

- *Implementation of “short-time autocorrelation”, “short-time AMDF”, and “real cepstrum” for speech pitch detection*
- *Matlab*

Wumpus Q-Learning ([Github link](#))

- *Implementation of 5x5 Wumpus game using the Q-Learning algorithm*
- *Python and Javascript*

Pentago mini-max ([Github link](#))

- *Implementation of the Pentago game using the mini-max algorithm and alpha-beta pruning*
- *Java and JavaFX*

TECHNICAL SKILLS

Deep Learning: Python ([Pytorch](#) - [Tensorflow](#) and [Keras](#) - [Sklearn](#) - [NumPy](#) - [Matplotlib](#)) -
Neural Networks (CNNs - RNNs - Transformers - GCNs)

Web and Application Development: Microsoft asp .net core (C#) for Back-end - **Flutter (dart)** for Apps -
HTML/CSS, Bootstrap, and JavaScript/jQuery for Front-end

Programming Languages: C# - C++ - Matlab - Java/JavaFX - Verilog, VHDL and x86 Assembly (familiar)

Tools: Git and Github - Kaggle and Colab - Docker(familiar) - \LaTeX

RELEVANT COURSES

- **M.Sc.:** *Digital Image Processing (17.8/20 - Dr. H. Abrishami Moghaddam) - Machine Learning and Advanced Data Mining (19/20 and 19.5/20 - Dr. A. Ahmadi) - Neural Networks (18.25/20 - [Dr. M. Teshnehlab](#))*
- **B.Sc.:** *Algorithm Design (18.5/20 - Dr. A. Ahmadi) - Computer Networks (18.5/20 - [Dr. A. Ghasemi](#)) - Principles of Database Design (19/20 - Dr. S. Farzi) - Software Engineering (18/20)*

LANGUAGE PROFICIENCY

Persian: Native

English: Fluent

IELTS Academic will be done by the end of **August 2023**

Arabic: Novice

HOBBIES

[Playing Chess](#) - Playing Volleyball (setter and libero) - Going to Gym - Playing video games - Cooking

REFERENCES

Dr. Ali Ahmadi ([Scholar](#) - [LinkedIn](#))

 Toronto, Canada

- AI Advisor in [York University](#)
- Associate Professor in K. N. Toosi University of Technology, AI Department, Computer Faculty
- E-mail: ahmadi@kntu.ac.ir

Dr. Hamid Abrishami Moghaddam ([Scholar](#))

 Tehran, Iran

- Professor of Biomedical Engineering in K. N. Toosi University of Technology, Electrical and Computer Faculty
- E-mail: moghaddam@kntu.ac.ir

Dr. Saeed Farzi ([Scholar](#) - [LinkedIn](#))

 Tehran, Iran

- Assistant Professor in K. N. Toosi University of Technology, AI Department, Computer Faculty
- E-mail: saeedfarzi@kntu.ac.ir

Dr. Fatemeh Rezaei ([Scholar](#) - [LinkedIn](#))

 Tehran, Iran

- Assistant Professor in Data Networks at K. N. Toosi University of Technology, Computer Faculty
- E-mail: frezaei@kntu.ac.ir