

Niloufar Faridani | CV

Tehran - Iran

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Education

University of Tehran

College of Engineering,

B.Sc in Electrical Engineering

Top 1% Iran University Entrance Exam (Konkour)

GPA :3.55/4

2019–Now

Salam High schools

Mathematic and physics,

Percentage: 100%

2016–2019

Experience

University of Tehran - Secure Communication Laboratory

Supervisor: Prof. Mohammad-Ali Akhaee, Dr. Ramin Toosi"

Deep learning models for predicting eye gaze points

Research Assistant

Sep 2022–Present

University of Tehran - Convergent Technologies Research Center

Supervisor: Prof. Mohammad-Reza A. Dehaqani, Dr. Ramin Toosi"

Deep learning models for Emotion detection

Research Assistant

Sep 2021–Present

University of Tehran - Computational Audio-Vision Laboratory

Supervisor: Prof. Reshaad Hosseini

Deep learning model for Optical character recognition (OCR)

Intern

July–Sep 2021

University of Tehran - Convergent Technologies Research Center

Supervisor: Prof. Mohammad-Reza A. Dehaqani

Twister Development,

Research Assistant

May 2021

University of Tehran - Convergent Technologies Research Center

Supervisor: Prof. Mohammad-Reza A. Dehaqani

Heat-Bed Development

Research Assistant

Oct 2021

University of Tehran

Intelligent Systems, "Prof. Reshaad Hosseini"

Introduction to Computing Systems and Programming, "Prof. Hadi Moradi"

Electric Circuit 1, "Prof. Moein Abedini"

Signals and Systems, "Prof. MohammadAli Akhaee"

Electric Machinery 1, "Prof. Moein Abedini"

ElectroMagnetics, "Prof. Mohammad Neshat"

Teaching Assistant

2021–Present

Publications

Unsupervised Representations Improve Supervised Learning in Speech Emotion Recognition

Niloufar Faridani, Amirali Soltani Tehrani, Ramin Toosi

Arxiv Link

Sep 2022–Sep 2023

This study proposes an innovative approach that integrates self-supervised feature extraction with supervised classification for emotion recognition from small audio segments.

Awards

Bronze medal

Salam High school

2017

Winner of Java programming competition named "Salam Cup".

Volunteering

Podcast Creator, JARYAN Magazine, IEEE Chapter

University of Tehran

2021

Cooperated with the university's IEEE chapter to produce a podcast series for JARYAN, the chapter's STEM magazine. Responsibilities included conducting interviews, editing audio, and publishing completed podcast episodes.

Skills

Programming

Python, C, R, Verilog, System Verilog, Java

Others

MATLAB, Arduino, Modelsim, Data Mining, Adobe Audition, Photoshop

Projects

Eye gaze prediction

Python, Deep learning, Signal Processing

Sep 2023-Present

The project is about building a Deep learning model for predicting the gaze points of the viewer which shows which areas in the video are more interesting

Emotion detection

Python, Deep learning, Signal Processing

2022-Present

The project is about building a Deep learning model for recognizing feeling of the speaker.

Speech signal processing

MATLAB, Signal Processing

2022

The project was about time-frequency analysis of audio signals. It contains Fourier Transform, Short-time Fourier transform, and Spectrogram.

Implementing AC-GAN

Python, Deep Learning, Pytorch

2022

This project is about implementing a Auxiliary conditional generative adversarial network, trained on costum dataset.

Implementing Deep Convolutional GAN

Python, Deep Learning, Pytorch

2022

This project is about implementing a unsupervised learning based on convolutional neural networks and generative adversarial networks

AlexNet image classification

Python, Deep Learning, Pytorch

2022

This project is about employing AlexNet for multiple classification on costum flower images.

Semantic segmentation

Python, Deep Learning, Pytorch 2022
Semantic segmentation of "Scene-parse-150" dataset using BERT Pre-training of Image Classification.

Image Classification

Python, Deep Learning, Tensorflow 2022
This project is about image classification using MLP + BEiT with CIFAR10 dataset.

Fake News Detection

Python, Deep Learning, Tensorflow 2022
This project is about detecting fake news using hybrid CNN+LSTM network.

Air-pollution prediction in smart city

Python, Deep Learning, Tensorflow 2021
For predicting the value of PM2.5 in the next 24 hours and also next week, dataset of air-polluting materials and a CNN+LSTM deep network is been used.

Naive-bayes algorithm

Python, Machine Learning 2022
The objective of this task is to use a simple Naive Bayes algorithm to determine the accuracy percentage of digit recognition from a dataset where numbers 0 to 9 are manually written.

Twister Development

Arduino, Signal Processing, Electronics 2021
The project was about to build a device that can twist couple of tiny wires by desired rotation speed and turning numbers and direction. The device is now being used in taking EEG signals from rats.

Heat-Bed Development

Arduino, Controlling Systems, Electronics 2021
The project was about to design a sensor that sense and control the temperature of rat body during surgery.

Synthesis and Analysis DTMF Code

MATLAB, Signal Processing 2021
Touch tone is the tone you hear while pushing phone keys. I learned how to produce them and also decode them to numbers.

Huffman Coding and Decoding

MATLAB, Signal Processing 2022
This method of coding is being used in transmitting and receiving symbols of a signal.

MIPS Processor Design

Digital Systems, Verilog 2021
A processor that calculates multiple mathematical operation one after another at high speed.

Termistor Sensing Temperature

Electrical Systems, Arduino 2021
It senses the temperature of everything you want and by a heating plate, it can raise it up, or also cool it down.

Coursework

Wireless communication

Convex optimization

Neural Networks and deep learning

Intelligent systems

Digital signal processing

Signal and systems

Communication Systems

Digital communication
Engineering Probability and Statistics
Introduction to Computing Systems and Programming
Computer networks

Certificates

Computational Neuroscience.....

Neuromatch Academy - July 2023

Skills acquired: Neuroscience, Deep Learning, Optimization, Modeling

Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization.....

DeepLearning.AI - Coursera - Aug 2022

Skills acquired: Deep Learning, Optimization

Neural Networks and Deep Learning.....

DeepLearning.AI - Coursera - Aug 2022

Skills acquired: Deep Learning

Python Data Structures.....

University of Michigan - Coursera - Aug 2022

Skills acquired: Python, Data structures

Structuring Machine Learning Projects.....

DeepLearning.AI - Coursera - Jul 2022

Skills acquired: Machine Learning

Languages

Persian: Native proficiency

English: Professional working proficiency