

# Niloufar Faridani | CV

Tehran - Iran

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## Education

### University of Tehran

College of Engineering - University of Tehran,  
B.Sc in Electrical Engineering  
Top 1% Iran University Entrance Exam (Konkour)  
GPA : 16.90/20 | 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

Introduction to Computing Systems and Programming, "Prof. Hadi Moradi"  
Electric Machinery 1, "Prof. Moein Abedini"  
ElectroMagnetics, "Prof. Mohammad Neshat"

Teaching Assistant

2021–Present

## Awards

2017: Winner of Java programming competition named "Salam Cup".

## Skills

### Programming

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

## Others.....

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

## Projects

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### Emotion detection

*Python, 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

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**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**

## Languages

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**Persian:** Native proficiency**English:** Professional working proficiency