

Laya Fakher

Computer Engineer

@laya.fa2000@gmail.com
layafakher
<https://layafakher.netlify.app/>
in Laya Fakher

EDUCATION

- 2019 - 2023 **Bachelor's in Computer Engineering,**
K. N. Toosi University of Technology, Tehran, Iran. Computer Science Ranking : 601 - 800 in Times Higher Education (THE), 2023.
Thesis title : Bitcoin Price Prediction Using News Sentiment Analysis. (score : 20/20)
Supervisor : Dr. Masoud Dehyadegari
Cumulative GPA : 3.68/4 or (17.68/20.0) - Last 2 years GPA : 3.85/4 or (18.8/20.0)
- 2018 - 2019 **High school diploma in mathematics and physics,**
Shahid Bahonar Leading High School (GPA : 19.43/20)

INTERESTS

- General** Machine Learning, Deep Learning, Natural Language Processing, Garphs, Computer Networks, Computer Vision, Federated Learning, Software Engineering, Data Mining, Security.
- Specific** Large Language Models, Social computing science, Human-Computer Interaction, Distributed Learning, Disease Diagnosis Using Machine Learning, Responsible AI, Bioinformatics, Community Detection in Graphs.

SKILLS

Languages	Java , Python , C/C++ , C# , Matlab , VHDL , Javascript , HTML5 , CSS , PHP.
Frameworks & Libraries	TensorFlow , Keras , Scikit-learn , PyTorch , Pandas , NLTK , BERT , FinBERT , TextBlob , VADER , React JS , jQuery , Node JS , Express JS , Bootstrap.
Architectural & design Patterns	MVC , MVP , Observer , Singleton.
Data base	phpMyAdmin , MySQL , PostgreSQL.
Tools	Cisco Packet Tracer , Wireshark , IntelliJ Idea , Eclipse , Visual Studio 2019 , Visual Studio code , WebStorm , PhpStorm , Xilinx ISE , Proteus 8 Professional , git.
Operating systems	Windows , Linux , Android.
Modelization	UML , BPMN , Use Case Diagram , Sequence Diagram.
Office automation	LaTeX , Pack Office (Word , Excel , PowerPoint).

LANGUAGES

- Persian Native
- English IELTS Academic : 6.5 (Listening : 7 , Reading : 6.5 , Speaking : 6.5 , Writing : 6.5)

ACADEMIC EXPERIENCE

- Research Assistant , Early Depression Detection , IMPLEMENTATION, Supervisor : Dr. Farnaz Sheikhi**
> Using natural language processing for text sentiment analysis and early depression prediction.
Python SVM LSTM GRU HDLTex Machine Learning Deep Learning
- Fall 2023 Teaching Assistant , Computer Networks , ADVANCED, Instructor : Dr. Fateme Rezaei**
> Grading projects and homework.
> Preparing Presentations.
Application Layer Transport Layer Network Layer
- Teaching Assistant , System Analysis & Design , PRINCIPLES, Instructor : Dr. Mehdi Esnaashari**
> Grading assignments, projects and homework.
> Helping students who need extra support to complete tasks.
Agile methodology

Teaching Assistant , Database Design , PRINCIPLES, Instructor : Dr. Mohammadhadi Alaeiyan

- › Project Declaration and Preparing Presentations.
- › Explaining concepts and offering additional support to students who needed it.

Microsoft SQL Server RDBMS NoSQL Databases

Spring 2023 Teaching Assistant , Hardware/Software Codesign , SYSTEMC, Instructor : Dr. Hoda Roodaki

- › Grading tests, projects and homework.
- › Helping students who need extra support to complete tasks.
- › Teaching small groups who need additional help or guidance.

SystemC Visual Studio 2019

Fall 2022 Teaching Assistant , Computer Networks , FUNDAMENTALS, Instructor : Dr. Fateme Rezaei

- › Grading projects and homework.
- › Explaining concepts and offering additional support to students who needed it.

The Physical Layer The Data Link Layer Python MATLAB Signal Processing

Spring 2021 and Spring 2022 Teaching Assistant, ADVANCED PROGRAMMING, Instructors : Dr. Mehdi Esnaashari ,Mr. Mehdi Zamanian

- › Grading tests, projects and homework.
- › Project Declaration and Preparing Presentations.
- › Supervising group activities.

Java JavaFX Object-Oriented Programming

Fall 2020 and Fall 2021 Teaching Assistant, ADVANCED PROGRAMMING, Instructor : Mr. Mehdi Zamanian

- › Grading assignments, projects and homework.
- › Supervising group activities.
- › Explaining concepts and offering additional support to students who needed it.

Java JavaFX Object-Oriented Programming

RESEARCHES AND PROJECTS

EARLY DEPRESSION DETECTION

SEPTEMBER 2023 - PRESENT

currently in progress

Early depression detection on social media using natural language processing and deep learning techniques.

Python SVM LSTM GRU HDLTex Machine Learning Deep Learning

BITCOIN PRICE PREDICTION USING NEWS SENTIMENT ANALYSIS

JUNE 2023 - SEPTEMBER 2023

 github.com/layafakher/Bitcoin-Price-Prediction-Using-News-Sentiment-Analysis  [Google Colab](#)

Bitcoin Price Prediction using Financial News Sentiment Analysis.

Python LSTM Textblob

PITCH DETECTION

FEBRUARY 2023 - MARCH 2023

 github.com/layafakher/pitch-detection

Detecting and plotting pitch contour of a given audio file using AMDF, Autocorrelation and Cepstrum methods.

MATLAB

TSP METAHEURISTICS

MAY 2023 - JUNE 2023

 github.com/layafakher/TSP-Metaheuristics

Solving the TSP problem using Bat Algorithm and Red deer Algorithm on a dataset containing 4663 location's coordinates in Canada.

Python

SOLVE TSP USING ANT COLONY OPTIMIZATION HARDWARE/SOFTWARE CODESIGN

JUNE 2022 - JULY 2022

 github.com/layafakher/TSP-AntColonyOptimization

Solving tsp problem using Ant-Colony optimization with SystemC as a server and Python as a client.

Tsp Ant Colony Optimization Python SystemC

FLOW CONTROL TECHNIQUES IN COMPUTER NETWORKS

MAY 2022 - JUNE 2022

 github.com/layafakher/Flow-Control-Techniques-in-Computer-Networks

Implementing Flow Control Techniques such as GBN (Go-Back-N Protocol) and SR (Selective Repeat Protocol).

Java JavaFX Scene Builder

WORKING EXPERIENCE

October 2023 | **Natural Language Processing Engineer, Data scientist, FULL-TIME, Smartory Labs**
Present > working on the resume-parsing project.
Python Natural Language Processing Machine Learning Deep Learning

HONORS AND AWARDS

- 2023 Ranked within the top 20% among the graduated students of the Computer Engineering Department, K. N. Toosi University of Technology, Iran, 2022.
- 2019-2023 Received a full four-year scholarship for the entire duration of my undergraduate studies, including a complete tuition waiver.
- 2019 Ranked among the top 1% among approximately 160,000 participants in the University Entrance Exam for bachelor's degree, Iran.

RELEVANT COURSES

- > Speech & Language Processing : **20/20**
- > Artificial Intelligence and Expert Systems : **19.25/20**
- > Graph Theory and Algorithms : **20/20**
- > Data Mining : **20/20**
- > Principles of Database Design : **20/20**
- > Software Engineering : **20/20**
- > Principles of Compiler Design : **20/20**
- > Computer Networks 2 : **18.2/20**

CERTIFICATIONS

- 2023 Sequence Models, Coursera.
- 2023 Structuring Machine Learning Projects, Coursera.
- 2023 Improving Deep Neural Networks : Hyperparameter Tuning, Regularization and Optimization, Coursera.
- 2023 Neural Networks and Deep Learning, Coursera.
- 2023 Supervised Machine Learning : Regression and Classification, Coursera.
- 2022 Java Programming : Solving Problems with Software, Coursera.
- 2022 Front-End Web Development with React, Coursera.
- 2022 Programming for Everybody (Getting Started with Python), Coursera.

REFERENCES

Dr. Fatemeh Rezaei

Assistant Professor, COMPUTER ENGINEERING DEPARTMENT, K. N. TOOSI UNIVERSITY OF TECHNOLOGY

@ frezaei@kntu.ac.ir
☎ +982184062450404

Dr. Mehdi Esnaashari

Assistant Professor, COMPUTER ENGINEERING DEPARTMENT, K. N. TOOSI UNIVERSITY OF TECHNOLOGY

@ esnaashari@kntu.ac.ir
☎ +982184062450403

Dr. Masoud Dehyadegari

Assistant Professor, COMPUTER ENGINEERING DEPARTMENT, K. N. TOOSI UNIVERSITY OF TECHNOLOGY

@ dehyadegari@kntu.ac.ir
☎ +9821-84062313

Dr. Farnaz Sheikhi

Assistant Professor, COMPUTER ENGINEERING DEPARTMENT, K. N. TOOSI UNIVERSITY OF TECHNOLOGY

@ f.sheikhi@kntu.ac.ir
☎ +9821-84062450-406

Dr. Mohammadhadi Alaeiyan

Assistant Professor, COMPUTER ENGINEERING DEPARTMENT, K. N. TOOSI UNIVERSITY OF TECHNOLOGY

@ m.alaeiyan@kntu.ac.ir
☎ +9821-84062413