

# Taha Mousavi

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## EDUCATION

### Bachelor of Science (BSc.), Computer Engineering

*Faculty Computer Science and Engineering, Shahid Beheshti University*

Sep. 2019 - Present

GPA: 3.83/4

### High School Diploma in Mathematics and Physics

*National Organization for Development of Exceptional Talents*

Sep 2016 - Sep 2019

GPA: 19.6/20

## RESEARCH INTERESTS

- Machine Learning
- AI for healthcare
- Natural language processing
- Algorithms analysis
- Deep Learning
- Computer vision

## HONORS & AWARDS

### 4th place at Amirkabir Artificial Intelligence Competitions (AAIC)

*Achieved 4th place for intent detection in complex queries in [Hamrah-e-Aval](#) chatbots*

Mar. 2023 - Apr. 2023

### 8th place, out of 110 undergraduate students in Computer Engineering

*At Faculty Computer Science and Engineering, Shahid Beheshti University*

Oct. 2019 - Oct. 2023

## RESEARCH EXPERIENCES

### Research Assistant, Natural Language Processing Lab

Mar. 2023 – Present

*Contributed to a project focused on complex query intent detection in chatbots*

- Performed data pre-processing tasks, including tokenization, stemming, and data normalization
- Implemented noise removal, TF-IDF, data augmentation, and learning rate scheduling techniques
- Utilized various machine learning and deep learning models, including ParsBERT, RoBERTa, XGBoost, SVM, and Random Forest, achieving an accuracy of 93%

*Detecting Offensive and Out-of-Domain Sentences*

- Detecting and validating offensive sentences using deep learning models and available data.
- Developing custom frameworks for structuring positive and negative sentences within texts for use in various projects.
- With the goal of publishing a research paper.

### B.Sc. Thesis

Jun. 2023 - Present

*A Deep Learning-Based Method for Parkinson's Disease Diagnosis from EEG Signals*

- Enhanced an existing CNN model with the SincNet architecture, resulting in an accuracy of 99%
- The paper is under publishing.

## PROJECTS

### User Audience Prediction using NLP Approaches | Python, Pandas, Numpy, scikit-learn, Parsivar

[Github](#) | Jan. 2022

- Developed an end-to-end model for predicting user audience questions using Naive Bayes algorithm and achieved an accuracy of 0.83
- Contributed to the development of the faculty chatbot and intelligent student assistant system, Soha (Intelligent Communication System)
- Artificial Intelligence Course

### Face Verification System | Python, Keras, TensorFlow, OpenCV, NumPy, Pandas

[Github](#) | Jan. 2023

- Implemented a face verification system using FaceNet and achieved face feature extraction from images
- Computer Vision Course

### Anomaly Detection in a Security Camera System | Python, scikit-learn, NumPy, Pandas, Matplotlib

[Github](#) | Jul. 2023

- Performed data preprocessing, feature extraction, and implemented unsupervised machine learning techniques for anomaly detection
- Utilized techniques like PCA, feature selection based on normal distribution, Gaussian method, DBSCAN, and Isolation Forest
- Machine Learning Course Final Project

### Software Testing using Selenium | Python, Selenium

[Github](#) | Jul. 2023

- Developed automated testing scenarios using Selenium to validate functionality and report bugs for improved product quality
- Software Testing Course Final Project

#### **Shopping Search Engine, Torob | ReactJS, NodeJS**

[Github](#) | Jul. 2022

- Built a shopping website for browsing and purchasing products using ReactJS for frontend and NodeJS for backend
- Internet Engineering Course Final Project

#### **Game & Entertainment Network, Plato | Java, Android**

[Github](#) | Jul. 2020

- Implemented a game and entertainment network using sockets to send and receive data between the server and clients in an Android application
- Advanced Programming Course Final Project

### **TEACHING EXPERIENCES**

#### **Advanced programming | Head TA**

Sep. 2021 – Jun. 2022

*By Dr. Vahidi-Asl*

- Leading and managing a group of 5 TAs
- Mentoring students to build a mobile application
- Designer and grader of final project and assignments
- Conducted TA classes to assist students
- +50 students

#### **Advanced programming | TA**

Feb. 2021 – Jan. 2022

*By Dr. Vahidi-Asl*

- Designer and grader of final project and assignments
- Conducted TA classes to assist students
- +50 students

#### **Fundamentals of Computer Programming | TA**

Sep. 2020 – Jun. 2021

*By Dr. AliAkbari*

- Designer and grader of the assignments
- Conducted TA classes to assist students
- +80 students

#### **Advanced programming | TA**

Sep. 2021 – Jan. 2022

*By Dr. AliAkbari*

- Designer and grader of final project and assignments
- Conducted TA classes to assist students
- +50 students

#### **Operating Systems | TA**

Sep. 2022 – Jun. 2023

*By Dr. Ebrahimi Moghadam*

- Designer and grader of assignments
- Conducted TA classes to assist students
- +50 students

#### **Software Engineering | TA**

Sep. 2023 – Present

*By Dr. Alidoost Nia*

- Designer and grader of final project and assignments
- Conducted TA classes to assist students
- +50 students

### **WORK EXPERIENCES**

#### **Faranegar Company. IT, Software and Internet Services**

Feb. 2021 – Present

*Developer and Tester*

*Tehran, Iran*

- Designed efficient algorithms for coding, decoding, and compressing barcode, text, and JSON files
- Developed mobile applications and web apps, including online check-in systems for travelers
- Contributed to software test design and execution, ensuring software quality

#### **Mohaymen ICT**

Jul. 2021 – Sep. 2021

*Intern*

*Tehran, Iran*

- Acquired knowledge in inverted index algorithms, code review, and unit testing
- Gained expertise in data binding, multi-threading, networks, services, and SQL in Android programming

### **TECHNICAL SKILLS**

**Languages:** Python, Java, Dart, C++, SQL

**Frameworks:** Numpy, Pandas, OpenCV, PyTorch, Tensorflow, Scikit-learn

**Developer Tools:** Jupyter, VS Code, MongoDBCompass, Selenium, and Android studio

**Other Technologies/Frameworks:** Linux, Git, GitHub, Gira

### **RELEVANT COURSES**

**Machine learning Specialization - Coursera**