

Amirhossein Abaskohi *September 19, 2000*

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Research Interests

- Natural Language Processing
 - Energy Based Models
 - Deep Learning
 - Structured prediction
 - Computer Vision
 - Machine Learning
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Education

University Of Tehran	SEPTEMBER 2018 - PRESENT
B.Sc in Computer Science	<i>Ranked top 15% in class</i>
Department of Electrical and Computer Engineering	
• Cumulative: 17.79/20.00 (3.8/4) (Faculty Average: 15.10/20.00)	
Motahari High School	2015-2018
Diploma in Mathematics and Physics	
GPA: 19.81/20	

Research Experience

Undergraduate research assistant at the UNC Charlotte	SEPT 2021 - PRESENT
Under Supervision of Prof. Pedram Rooshenas	
Using PyTorch, I'm developing an NVAE generative model to produce a picture and its caption simultaneously.	
Undergraduate research assistant at University of Tehran	AUG 2021 - PRESENT
Under Supervision of Prof. Behnam Bahrak	
I'm working on a Natural Language Processing model called iSarcasm for a sarcastic and non-sarcastic twitter dataset. This task is for SemEval 2022.	
Undergraduate research assistant at University of Tehran	Nov 2020 - OCT 2021
Under Supervision of Prof. Manouchehr Moradi	
We developed a cognitive test for preschoolers to determine whether or not they are ready for school. The test includes a voice recognition model that I have worked on that.	

Teaching Experience

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|--------------------------------------------------------------------------------------|-------------|
| • Programming languages and Compilers (Chief TA) Prof. Zeynab Sabahi | FALL 2021 |
| • Data Structures Prof. Heshaam Faili | FALL 2021 |
| • Computer Architecture Prof. Saeed Safari | FALL 2021 |
| • Artificial Intelligence Prof. Hakimeh Fadaie | FALL 2021 |
| • Design and Analysis of Algorithms Prof. Hamid Mahini | SPRING 2021 |
| • Programming languages and Compilers Prof. Fatemeh Ghasemi | SPRING 2021 |
| • Engineering Probability and Statistics Prof. Behnam Bahrak | FALL 2020 |
| • Data Structures Prof. Heshaam Faili | FALL 2020 |
| • Discrete mathematics Prof. Siamak Mohammadi | FALL 2020 |
| • Discrete mathematics Prof. Siamak Mohammadi | SPRING 2020 |
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Volunteering

- Artificial intelligence and machine learning mentor in summer school 2021 SUMMER 2021
 - Writing on Medium about Machine Learning JUL 2021-PRESENT
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Work Experience

Financial Data science internship August 2021 - October 2021

World Data Science Institute

- **Description:** In this internship I have worked with a group from all around the world remotely, working on a online payment application with API system and some machine learning algorithms for fraud detection.
- **Skills used:** Python, Research, Project Leadership, Flask, Django, GraphQL, REST API

Back-end developer June 2020 - Present

Idea Varzan System

- **Description:** I was working on back-end API system for a project management application. We were using Agile methodology for our project management. In some points, I also worked on the cellphone application as well.
- **Skills used:** ASP.NET, Swagger, SeqLog, Grafana, Dart

Data collector and data analyzer June 2019 - January 2020

Academic Center for Education, Culture and Research of Science and Technology university

- **Description:** I was working on collecting data from Iranian stores to create a price comparison and price estimation.
 - **Skills used:** Scraper, Python(Pandas, Matplotlib, numpy, ...)
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Extra Courses

- Deep learning specialization
 - Natural language processing specialization
 - Machine learning
 - Distributed Computing With Spark SQL
 - Neural Networks and Deep Learning
 - Advanced Computer Vision with TensorFlow
 - Blockchain and Cryptocurrency Explained
 - Intro to Computer Vision and Image Processing
 - Cloud Computing Concepts, Part 1
 - MongoDB Basics
 - Introduction to NOSQL Databases
 - Big data specialization
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Honors and Awards

Admission to University of Tehran September 2018

Ranked 46th (regional rank), and 1125th (national rank) among 144,437 participants in the Iranian Nationwide University Entrance Exam for Mathematics and Physics discipline.

Iran's Elites Foundation Member November 2021

Being a member of Iran's Elites Foundation.

Supporter Foundation of University of Tehran Scholarship 2020

Awarded to top 500 students among 35000 students in the university.

Notable Projects

Pet Clinic Web Application Tests

Java, JUnit

This is was a part of my Software Testing course which contains seven branch for each computer assignment. This is a simple Spring Web Application which I coded some test for that.

Python code generator

Python, Huggingface Transformers

Based on the dataset I obtained, I constructed a GPT2 transformer model for this project. I downloaded several python repositories from github and used them to train my model.

Computer Architecture Course Projects

Verilog

I have uploaded my computer architecture course's projects from my BS.c at the University of Tehran to this repository. In this course our main goal was to create different kind of MIPS CPU architecture.

Advanced Programming Course Projects

C++

I have uploaded my main advanced programming course's projects from my BS.c at the University of Tehran to this repository. These projects are: famous GUI game: Super Mario, A simple movie network like Netflix, and a simple interpreter.

Computer Network Projects

C++, C, TCL, GNS3

I have uploaded my computer networks course's projects from my BS.c at the University of Tehran to this repository. These projects are implementation of Multicasting, FTP Server and congestion control testing.

Operating Systems Projects

C++, C, Assembly

I have uploaded my operating systems course's projects from my BS.c at the University of Tehran to this repository. One of the project is XV6-modified which is MIT's Unix like operating system which is modified and some features has been added to that. Also there are multi-thread and multi-process projects.

Artificial Intelligence Projects

Python, Sklearn, Numpy, Pandas, Matplotlib

I have uploaded my artificial intelligence course's projects from my BS.c at the University of Tehran to this repository. These project contains: An multi layer neural network implementation from scratch on fashion MNIST dataset, search algorithms, A* algorithm visualization, Naive Bayes sentiment analysis and house price prediction which I participated in the related Kaggle's competition as well.

Django Craigslist Scraper

Python, Django, BeautifulSoup

In this project I made a scraper to scraper the famous Craigslist website. Also I have added the visualization to scrape and show the result based on the search using Django.

Hardware implemetation of Neural Network for MNIST dataset

Verilog, Python

In this project, I have implemented a simple MLP for MNIST dataset using verilog. Also there is an jupyter notebook file to check the result as well. This project was my final project of computer aided design course at the University of Tehran.

Chest image classifier

Python, Tensorflow, Matplotlib

This project was my final project of artificial intelligence course. I have created an MLP to classify the X-Ray image of human chest, whether the patient is health, has Covid-19, or has pneumonia.

Sophia Compiler

Java, ANTLR

In this project, I have implemented a complete compiler for a java like language called Sophia. This project uses JVM to run the code. I have implemented Lexical Analyzer and Parser, AST tree creation, Name Analyzing, Type checking, Checking accessibilities, and Code generation using JASMIN.

Speech Commands Classifier

Python, PyTorch, Librosa, WSGI, Flask

In this project, I created an CNN classifier for Google's speech commands dataset. Then I created an API system to use it with Flask and then I used WSGI to prepare the app for publishing.

VWS API

C#, Entity framework, ASP.NET Core

In this project, I created an API system for project management application like Trello.

Gossip Protocol

C++

A gossip protocol is a procedure or process of computer peer-to-peer communication that is based on the way epidemics spread. I implemented this protocol using C++ as my Cloud Computing course final project.

Stop sign classifier

Python, PyTorch, Pillow

This project was my final project for Intro to Computer Vision and Image Processing course which I use CNN to classify stop sign images.

Veem Payment API

Python, Flask

This is an Payment API which was one my project in World Data Science Institute internship. I used Veep API to create a payment system.

Catch The Flamingo

Splunk, KNIME, Neo4J

This is the capstone project of big data specialization. In this project which is a data analytic project, I worked on huge amount of data of Catch The Flamingo mobile game.

Premier league infringing IPs detector

Python, Apache Airflow, Tensorflow

In this project I created a apache airflow pipeline with different machine learning models to detect the infringing IPs for the premier league matches.

Languages

Persian

- mother tongue

English

- IELTS Mock Band Score: 7
 - Listening Skill Score: 8
 - Reading Skill Score: 6
 - Speaking Skill Score: 7
 - Writing Skill Score: 6

Skills

Languages

- Expert in Python, C\C++, SQL, C#
- Familiar with Java, GNU Octave, MATLAB, Verilog HDL

Technologies

- Git, VS Code, Jupyter, Google Colab, Visual Studio, \LaTeX

Tools

- NumPy, SciPy, Pandas, Scikit-learn, Tensorflow, Matplotlib, Pytorch, Jupyter, Modelsim, Quartus, CUDA, Django, Flask, GraphQL, Apache Airflow

Operating Systems

- Linux (Ubuntu, Parrot, Kali), Windows, Cloudera