

Amirhossein Alizad

COMPUTER ENGINEERING - STUDENT

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Education

College of Electrical and Computer Engineering, University of Tehran

Tehran, Iran

B.Sc. IN COMPUTER ENGINEERING (SOFTWARE ENGINEERING MAJOR)

SEP 2018 - JULY 2023

- **GPA: 17.03/20 - 3.34/4 (Last Two Years: 18.63/20 - 3.95/4)** Faculty Average: 15.1/20, Major Average: 15.97/20
- **Related Courses:** Data Structures and Algorithms(18.5/20) - Design and Analysis of Algorithms(19.5/20)
 - Computer Architecture(20/20) - Operating Systems(19.5/20) - Artificial Intelligence(19.5/20) - Database Design(19.45/20)
 - Formal Languages and Automata Theory(20/20) - Compilers and Programming Languages(18.75/20) - Software Engineering(19/20)
 - Formal Methods in Software Engineering(17.7/20) - Software Testing(19.84/20) - Internet Engineering(17.1/20)
 - Introduction to Neural Networks and Deep Learning(16.85/20)

Shahid Beheshti Highschool

Rey, Tehran, Iran

DIPLOMA IN MATHEMATICS AND PHYSICS

SEP 2014 - JULY 2018

- As a part of National Organization for Development of Exceptional Talents (NODET)

Honors and Awards

Ranked Top 0.15%, in Iranian University Entrance Exam with more than 140,000 participants

Bachelor Scholarship, Awarded a 4-year full scholarship from University of Tehran

Research Interests

- Artificial Intelligence and Machine Learning
- Database Systems
- System Security
- Software Testing
- programming languages and methodology
- Software Engineering Empirical Studies
- Speech Recognition and Processing & natural language processing
- Data Mining and Data Retrieval

Research Experience

Hate Speech Detection with Graph Modeling in a Multilingual Space

University of Tehran

JULY 2022 - JULY 2023

- Under supervision of **Dr. Azadeh Shakeri**
- Detecting whether a given text contains a hate speech towards its contact using a predefined data set and a classification of hate speech content. Modeling data with a multilayer graph
- In each layer edges exist between a word and a message, between two words, and between a message and a hashtag. Edges between layers, represent the equivalence of the meaning of the words in each language. To enrich the relation between two layers, we used a set of predefined words and messages.

Teaching Experience

Teaching Assistant

University of Tehran

Formal Languages and Automata Theory

FEB 2021 - JULY 2021

FEB 2022 - FEB 2023

Data Structures and Algorithms

SEP 2020 - FEB 2021

Introduction to Computing Systems and Programming

SEP 2020 - FEB 2021

Supervising Teaching Assistant

University of Tehran

Data Structures and Algorithms

FEB 2021 - FEB 2022

Introduction to Computing Systems and Programming

SEP 2021 - FEB 2022

Coordinating Teaching Assistant

University of Tehran

Software Testing

SEP 2022 - FEB 2023

Internet Engineering

FEB 2023 - JULY 2023

Head Teaching Assistant

University of Tehran

Data Structures and Algorithms

FEB 2022 - FEB 2023

Work Experience

Radin Bourse

Tehran, Iran

SUMMER INTERNSHIP, SOFTWARE ENGINEER

JULY 2021 - SEP 2021

- 8-Weeks Internship.
- I got familiar with different object-oriented design patterns, software development methodologies such as Agile and DevOps, and software testing methodologies. I also designed and implemented a web application. The goal of this application was to assist enrollment process before each semester for students. Implemented in java using Spring framework.

Radin Bourse

Tehran, Iran

PART TIME, SOFTWARE ENGINEER

SEP 2021 - AUG 2023

- Designing and developing an ultra-low latency trading platform as a Software Engineer and Back-end Developer using java and spring framework for both the main Matching Engine and API modules.
- Infrastructure specialist in deployment. Using hashicorp nomad as the orchestrator.

Notable Academic Projects

Artificial Intelligence

University of Tehran

- **Search Algorithms:** The goal is to find all the marked points in a given map, in the shortest time possible, using search algorithms like IDS, A*, etc. for a snake which grows when it reaches each marked point on the map.
- **Genetic Algorithm:** The goal is to find a set of logical gates in an specific order, to generate all the desired outputs with a given input set to this set of gates using genetic algorithms.
- **Text Processing using Bayesian Networks:** The goal is to find a set of logical gates in an specific order, to generate all the desired outputs with a given input set to this set of gates using genetic algorithms.
- **Price Estimation using Regression:** Machine Learning project to predict and find the range of the price of a house with a set of given qualities, using SKLearn and seaborn libraries.
- **Image Classification with Neural Network:** Training neural networks using different activation functions and other different features using keras library to detect whether a picture of a lung given to the network, has pneumonia, covid-19 or is normal.

Operating System

University of Tehran

- **Customizing xv6** kernel with some added features for CPU scheduling, memory management, and synchronization
- Projects of this course consist of subjects like Socket Programming or a combination of AI and MultiThreading

Internet Engineering

University of Tehran

- Developing web application for Movie Database called IEMDB to watch, rate, like and comment on a movie.
- **BackEnd:** Spring Framework with REST API - **FrontEnd:** JavaScript (Reactjs) - **DB:** MYSQL - **Deployment:** Docker, Kubernetes

Software Testing

University of Tehran

- **Pet Clinic:** Testing a Web Application for a pet clining. writing coverage tests, movkMVC tests, assertion tests and cucumber tests for this web application was the goal of this project.

Summer Internship Project

Radin Bourse

- **Enroll Assist Application:** Web Application to simplify the enrollment process before each semester for students alongside writing movkMVC tests, assertion tests and cucumber tests for this web application.

Skills

Programming

Intermediate: java, C++, C, python
Beginner: SQL, Antlr, HTML, VerilogHDL, Ansible
Familiar: Assembly, Go, PHP, R

Technology

Git, Docker, Jupyter Notebook, Maven

Web Development

Spring, React, HTML, CSS

Databases

MySQL, PostgreSQL, Hazelcast

Python Libraries

Keras, seaborn, matplotlib, pandas, numpy, sklearn

Software Engineering

Proficient in object-oriented design patterns, software development methodologies, and software testing

Languages

Persian Native

English Professional working proficiency