

# Amirhossein Alizad

COMPUTER ENGINEERING - STUDENT

School of Electrical and Computer Engineering, University College of Engineering, University of Tehran, North Kargar st., Tehran, Iran.

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## Education

### Computer Science Department, Middlesex College, University of Western Ontario

London, Ontario, Canada

M.Sc. IN COMPUTER SCIENCE, SUPERVISED BY PROF. MOSTAFA MILANI

SEP 2023 - PRESENT

- **GPA:** -
- **Related Courses:** Databases II(95/100) - Topics in Data Management(93/100)

### College of Electrical and Computer Engineering, University of Tehran

Tehran, Iran

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

SEP 2018 - JULY 2023

- **GPA:** 17.19/20 **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 Shakery**
- 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.

## 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.

# 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

## Teaching Assistant

University of Western Ontario

Computer Science Fundamentals II

SEP 2023 - DEC 2023

Applied Logic for Computer Science

JAN 2024 - APR 2024

## 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

# 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

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### 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

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**Persian** Native

**English** Professional working proficiency