

Sahand Alitanloo

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EDUCATION

University Of Tehran, Tehran
BSc. Mathematics and Applications

Enrolled: September 2019 - Expected: February 2025
GPA: 15.76/20

Allameh Tabatabaei High School
Mathematics

September 2016 - July 2019
GPA: 19.6/20

- I was part of the informatics olympiad team at the school.

EVENTS & PRESENTATIONS

Simorgh Challenge

University Of Tehran

- With a group of students at the University of Tehran held a contest in the fields of Mathematics, Statistics, and Computer Science to increase collaborative culture at our college.
- The contest consisted of two parts: a theoretical part where contestants were required to answer problems in mathematics, statistics, and theoretical computer science, and a programming contest based on the ACM rules.
- You can find more information on our [website](#) and on our [Telegram Channel](#).
- **Skills:** \LaTeX , competitive programming, combinatorics, algebra, and statistics.
- **Soft Skills:** Professional writing, teamwork, professional attitude, and work ethic.

Introduction to Linear Codes

University Of Tehran

- A thorough look into Linear Codes and their applications, including the introduction of Hamming Codes and their properties.
- **Skills:** Linear Algebra and Cryptography.

Introduction to Rubik's Cube Group

University Of Tehran

- Using my knowledge in Algebra and [speedcubing](#), I introduced the Rubik's Cube Group and analyzed its properties.

Effects of Social Parameters on Divorce: A Game Theoretical Approach

University Of Tehran

- Exploring the roles of natural and communal parameters on the probability of divorce in societies using Game Theory.
- **Skills:** Game Theory.

The Multi-Player Performance-Enhancing Drug Game

University Of Tehran

- I presented [this](#) paper in class as practice for future presentations and projects in the Game Theory field.

Game Theory and Linear Programming

University Of Tehran

- Introducing an LP approach to game theory and using it to find optimal strategies for a simple game called asymmetric rock-paper-scissors and then for a more complex game called Simplified-Poker.

Modelling Oil Markets In Game Theory

University Of Tehran

- Briefly introducing game theory and then examining two strategic situations in oil markets, using game theory to draw conclusions.
- **Skills:** Microeconomics.

PROJECTS

Congestion Modelling of Large Cities in Game Theory

University Of Tehran

- This is my thesis.
- I am working with Prof. Ghahreman Abdoli and one of my classmates on this project.
- **Skills:** Game Theory.

Image Segmentation on Kvasir-SEG Dataset

University Of Tehran

- Using U-net for image segmentation on a dataset of gastrointestinal polyps.
- **Skills:** Human Anatomy, Computer Vision, image processing, Python with PyTorch, TensorFlow, NumPy, Matplotlib.

B-Tree Based SQL Database Implementation

University Of Tehran

- Implemented a database equipped with an SQL language parser and a B-tree-based engine in C++ from scratch without using any built-in data structures.

Basic 8-bit Computer

University Of Tehran

- A basic 8-bit computer created with the [Logisim](#) digital circuit simulator.
- **Skills:** Computer Systems.

EXPERIENCE

Araz Time Management Systems (Current)

Database Administrator/Developer (Part-time, 20h/week)

Intern Support Specialist; SQL (Full-time, 40h/week)

Intern Software Developer; VB and C# (Part-time, 20h/week)

Tehran, Iran

May 2021 - Present

January 2020 - September 2020

July 2019 - December 2019

- My first role is working on the design and development of a personnel time management application based on VB, which uses a fairly large database, and my work consists of improving the efficiency of the engine and database.
- I also work on customizing the application based on certain customers' needs, for example, adding features only useful to certain customers.
- I have worked on debugging the operating system of a Unix-based device used to control the entry and exit of personnel.
- **Technical Skills:** VB, SQL, C++, Algorithm design, and C#.
- **Soft Skills:** Critical thinking, Problem solving, and Teamwork.

Freelance

Competitive Algorithmic Programming Contest Problem Setter

Remote

2018

- **Codeforces.com:** I worked on testing several contests and also have done problem-setting on two Educational Rounds (Round 38 and 40). You can find my profile [here](#).
- **CSacademy.com:** I did the problem-setting for Round 82.
- **Quera.org:** I held contest #22 when I was in high school with a couple of my other classmates in the informatics olympiad group.

TEACHING EXPERIENCE

Teaching Assistant:

University Of Tehran

- **Game Theory** Prof. Darvish Zadeh Fall 2023
- **General Topology** Prof. Hadi Zaree Spring 2024
- **Fundamentals of Numerical Analysis** Prof. Minoo Kamrani Spring 2024
- **Scientific Computing** Prof. Alireza Hosseini Spring 2024
- **Soft Skills:** Teaching.

Online Course Editor and Writer

Quera.org

- I was one of the editors and testers for the [Data Structures and Algorithmic Thinking](#) course.

GENERAL SKILLS

- **Languages**
 - **English:** TOEFL iBT: 111 - (Reading: 24 / Listening: 30 / Speaking: 27 / Writing: 30)
 - **Farsi:** Native Speaker
 - **Turkish:** Native Speaker
- **Platforms:** Windows/Linux