

# Ali Mahzoun

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## Education

### Amirkabir University of Technology

COMPUTER SCIENCE, BACHELOR OF SCIENCE

- CGPA: 3.84/4 (18.01/20)

Tehran, Iran

Sep 2018 - present

### National Organization for Development of Exceptional Talents (NODET)

DIPLOMA IN MATHEMATICS AND PHYSICS

- GPA: 17.75/20

Bojnurd, North Khorasan, Iran

Sep 2011 - Jul 2018

## Research Interests

### • Software Engineering

### • Parallel Computing

### • Data analytics

### • Applied ML

### • Algorithms

### • Graph Theory

## Research Experience

### Research Intern

PROF. LIONEL PARREAU 

- Worked on new features of **MLscript**  such as supporting undefined and null keywords. MLscript is an object-oriented and functional programming language with ML-style principal type inference.

- **Publication:** MLstruct: Principal Type Inference in a Boolean Algebra of Structural Types (**Artifact**) (oopsla22-v2). Zenodo.

Taco Lab (HKUST)

Jun 2022 - Sep 2022

### Undergraduate Thesis (19.7/20)

PROF. ADEL MOHAMMADPOUR 

- A platform to specify the best and most relevant mentors for academic needs
- Designed a method to extract mentors from database with user's question and classification concepts
- Find an approach with rating methods to suggest the best mentors by users votes.

Amirkabir University

Oct 2021 - Oct 2022

## Teaching Experience

### Teaching Assistant, Computer programming

PROF. MOHAMMAD AKBARI 

- Exercise sessions, assigning and grading homework

Amirkabir University

Fall 2022

### Teaching Assistant, Computer programming

PROF. FATEMEH ZARE-MIRAKABAD 

- Quizzing, exercise sessions, assigning and grading homework

Amirkabir University

Fall 2020 & Spring 2022

### Teaching Assistant, Computer programming

DR. MORTEZA KOOHSAR 

- Exercise sessions, assigning and grading homework

Amirkabir University

Fall 2020

### Teaching Assistant, Introduction to computer & programming

MRS. HAIDEH ALIABADI

- Exercise sessions

Amirkabir University

Fall 2019

## Working Experience

### Software Engineer

YEKTANET 

- Worked on services with high amount of data request (about **3K per sec**), using Python, TypeScript, PostgreSQL, Redis,...
- Member of **2** teams and contributed to **5** projects. Developed a **video sharing platform** from scratch.
- Worked on **video ads** project which deliver ads by **VAST** and worked on an advertising system for Digikala  sellers.
- Software health-check via monitoring tools like **Sentry** and **Grafana**

Tehran, Iran

Jul 2021 - Apr 2022

## Projects

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### **Snake: AI Multi-agent |**

Tehran, Iran

ARTIFICIAL INTELLIGENCE COURSE PROJECT

Feb 2022 - Jul 2022

- Tests agents' performance with four different algorithms: random moves, greedy, crash avoiding, and path finding.

### **Course-Selection: An online task manager and course selection system |**

Tehran, Iran

PRINCIPLES OF SOFTWARE DESIGN COURSE PROJECT

Feb 2021 - Jul 2021

- Django, Python, Postgresql, Rest API, SCRUM Master, Presenter
- Application includes task manager and weekly schedule planner to help students.

### **Encrypting message with random matrices |**

Tehran, Iran

LINEAR ALGEBRA COURSE PROJECT

Feb 2021 - Mar 2021

- Encrypting by 3 matrices: message encoded matrix, upper triangle matrix and lower triangle matrix.

### **Gauss-Seidel Method |**

Tehran, Iran

NUMERICAL LINEAR ALGEBRA COURSE PROJECT

Jan 2022

### **Interpreter to calculate mathematical expressions |**

Tehran, Iran

COMPILER COURSE PROJECT

Nov 2020 - Dec 2020

- Written in C. Interpret Addition, Subtraction, Multiplication, Division, Modulation, and Exponentiation.

### **Solve system of linear equations with decompositions |**

Tehran, Iran

NUMERICAL ANALYSIS COURSE PROJECT

Nov 2020 - Dec 2020

- Using Cholesky & LU/PLU Decomposition & Gaussian Elimination Algorithm

## Awards & Honors

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### **Distinguished Undergraduate Award**

Tehran, Iran

AMIRKABIR UNIVERSITY OF TECHNOLOGY

Feb 2019 - Present

### **Undergraduate Tuition Waiver**

Tehran, Iran

AMIRKABIR UNIVERSITY OF TECHNOLOGY

Sep 2018 - Present

## Activity

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### **Scientific Author at the “Halgheh” Journal**

Tehran, Iran

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE, AMIRKABIR UNIVERSITY OF TECHNOLOGY

Oct 2021 - Jan 2022

- Title: Creating a star-shaped polygon with a given set of points

### **Students' Scientific Chapter, Official Member & Financing Specialist**

Tehran, Iran

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE, AMIRKABIR UNIVERSITY OF TECHNOLOGY

Aug 2020 - Sep 2021

### **Chair of Git Webinar**

Tehran, Iran

DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE, AMIRKABIR UNIVERSITY OF TECHNOLOGY

Sep 2020 - Dec 2020

## Skills

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### **Programming Languages**

Python, C/C++, Bash, Java, JavaScript, TypeScript, SQL, Scala, MATLAB

### **Web Technologies**

HTML, CSS, Bootstrap, JQuery

### **Libraries & Frameworks**

Django, DRF, Scrappy, Celery, ffmpeg, PIL, numPy, Matplotlib

### **Tools**

LaTeX, Git, Grafana, Sentry, Postman, JetBrains products

### **Operating Systems**

Linux(Ubuntu), Windows

### **DataBases**

PostgreSQL, Redis, MySQL, SQLite

### **Experienced with**

Kubernetes, RabbitMQ, Maple

### **Languages**

English (Fluent) → **TOEFL = 97** (R:27 L:24 S:23 W:23),  
Persian (Native)