

ALIREZA ZARENEJAD

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Summary

I'm a graduate Computer Engineering student at Sharif University of Technology. I received my bachelor's degree in computer engineering from the ECE Department of University of Tehran. Top student at one of the greatest universities in Iran. Responsible researcher, teaching assistant. Proficient in programming and system designing. Seeking to leverage my knowledge about artificial intelligence. With great experience working with honorable professors. Passionate and motivated, with a drive for excellence. I am also working as a software engineer in Mahsan company. It is a great honor for me to have the opportunity to work with Dr. Ramesh Jain and the University of Irvine.

Education

Master of Computer Engineering

Oct. 2021 – Present

Sharif University of Technology, Artificial Intelligence

Tehran, Iran

- **GPA:** NA

Bachelor of Computer Engineering

Sep. 2017 – Sep. 2021

University of Tehran, Software Engineering

Tehran, Iran

- **GPA:** 18.76/20 (4/4)
- **Final project:** Multilingual questions and answers retrieval using BERT

Diploma in Physics and Mathematics Discipline

Sep. 2013 – Jun. 2017

shahid Beheshti High-school (National Organization for Development of Exceptional Talents)

Rey, Tehran, Iran

- **GPA:** 19.84/20 (4/4)

Selected Courses

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| • Object Oriented Design Pattern (19.11) | • Computer Architecture (18.2) |
| • Parallel Programming (18.2) | • Algorithm Design (19.7) |
| • Software Testing (20) | • Data Structures (18.2) |
| • Research and Technical Presentation (19.6) | • Engineering Probability and Statistics (19.8) |
| • Internet Engineering (19.7) | • Discrete Mathematics (19.5) |
| • Database Design (19.2) | • Machine Learning (not graded) |
| • Computer Networks (20) | • Stochastic Processes (not graded) |
| • Data Transmission (18.4) | • Natural Language Processing (not graded) |
| • Systems Analysis and Design (19.2) | • Convex Optimization (will be taken) |
| • Artificial Intelligence (18) | • Advanced Machine Learning (will be taken) |

Honors and Awards

- * **Ranked 125** in Iranian University Entrance Exam among more than 250000 participants, admission to University of Tehran.
- * **Ranked 6** in Computer Engineering at University of Tehran, among the 103 students, Tehran, Iran.
- * **Received scholarship** from Supporter Foundation of University of Tehran as student with exceptional talent.
- * **Admission to University of Tehran and Sharif University of Technology** for the master's degree without the Iranian University Entrance Exam because of the exceptional performance in the undergraduate studies.

Work Experience

Software Engineer

Jun. 2020 – Sep. 2021

Mahsan Company

Tehran, Iran

Working as a C++ developer. Some abilities like high-performance and high-quality implementation, unit testing, and agile software development in system-level products are needed. My work is mostly about computer networks challenges in Linux operating system, detecting and dissecting packets. During my career in this company I get familiar with VoIP. I mostly worked with SIP and RTP protocol.

Research Experience

Research Assistant

Oct. 2021 – Present

Sharif University of Technology, University of California, Irvine

Researcher in a joint collaboration with the University of Irvine, under the supervision of Prof. Ramesh Jain and prof. HamidReza Rabiee, working on food and ingredient prediction and recipe generation.

Research Assistant

Oct. 2021 – Present

Sharif University of Technology, Artificial Intelligence

Tehran, Iran

Researcher of Data Science and Machine Learning Lab (DML) where researchers involved in projects such as QoS in wireless networks, scalable video coding, error concealment, wireless media streaming, Face Recognition, Video Object Tracking, Multimedia P2P and Overlay Networks, Social networks, Modeling and Analysis of Complex Networks, and Gene Expression for Cancer Detection in consultation with prof. HamidReza Rabiee.

Research Assistant

Jan. 2021 – Sep. 2021

University of Tehran, Software Engineering

Tehran, Iran

Researcher of Intelligent information systems lab (IIS) at the University of Tehran where researchers focus on developing new methods and enhancing current algorithms used in search engines, recommender, and other information retrieval systems. Studying question retrieval in community-based question answering services in consultation with prof. Azadeh Shakery.

Teaching Experience

- * **Internet Engineering**, Prof. Ehsan Khamespanah
- * **Database Systems**, Prof. Azadeh Shakery
- * **Computer Networks**, Prof. Ahmad khonsari
- * **Computer Networks**, Prof. Naser Yazdani
- * **Operating Systems**, Prof. Mehdi Kargahi
- * **Programming Languages and Compilers**, Prof. Fatemeh Ghassemi Esfahani
- * **Discrete Mathematics**, Prof. Siamak Mohammadi
- * **Introduction to Computing Systems and Programming**, Prof. Hadi Moradi

Technical Skills

Programming Languages: C/C++, Java, Kotlin, Python, MATLAB, Verilog, VHDL

Developer Tools: VS Code, Eclipse, Google Cloud Platform, Android Studio, IntelliJ IDEA, PyCharm

Simulation Tools: Modelsim, Altera Quartus, Proteus Design Suite

Network Tools: Wireshark, Tshark

Frameworks: Spring, Django

Web Development: HTML, CSS, JavaScript, React-JS, Docker, Kubernetes

Database: SQL, NoSQL, Redis, JPA, ORM, JDBC

Machine Learning: Tensorflow, Pytorch

Software: Design Pattern, Unit Testing, Project Management Methods

Typesetting: Microsoft Office, LATEX

Operating Systems: Windows, Linux

Projects

Swip Brick Breaker <i>C++</i> <ul style="list-style-type: none">* Implementation of graphical game in which an attendant must remove bricks to get more points.* Course: Advanced Programming	March 2018
Poems Classification <i>Python</i> <ul style="list-style-type: none">* Classification of poems of Saadi and Hafez by Naive Bayes algorithm.* Course: Artificial Intelligence	October 2019
MIPS Processor Simulation <i>Verilog</i> <ul style="list-style-type: none">* Design and simulation of a MIPS Processor with Verilog including single cycle, multi-cycle, pipeline, and cache.* Course: Computer Architecture	January 2019
Loghmeh (Food Delivery) <i>Java, Spring, React, HTML, CSS</i> <ul style="list-style-type: none">* Development and deployment of backend and frontend of online food-delivery.* Course: Internet Engineering	April 2020
Electric Circuit Solver <i>Python</i> <ul style="list-style-type: none">* A software for visualizing and solving electrical circuits.* Course: Electric Circuits	April 2020
Compiler for ActON based Language <i>Java</i> <ul style="list-style-type: none">* Implementing lexical and syntax analyzer, name analyzer, type analyzer, and code generator.* Course: Compiler Design and Implementation	April 2019
ARM Processor <i>Verilog</i> <ul style="list-style-type: none">* Implementation of an ARM processor with SRAM and Caches on FPGA.* Course: Computer Architecture Lab	June 2020
Multiplayer Bluetooth mobile game <i>Android</i> <ul style="list-style-type: none">* Developing a real-time multiplayer mobile game like Tank Trouble, over Bluetooth. This project was implemented using Android Studio.* Course: Real Time Embedded Systems	July 2021
Multilingual questions and answers retrieval with BERT <i>Python</i> <ul style="list-style-type: none">* Fine tuning BERT model for question and answer retrieval.* B.Sc. Thesis	September 2021
Persian Sentiment Analysis <i>Python</i> <ul style="list-style-type: none">* Design models in three different ways(logistic regression, CNN, and BERT) and compare them in sentiment analysis.* Course: Natural Language Processing	Nov. 2021
Persian to Tajik transliteration and vice versa <i>Python</i> <ul style="list-style-type: none">* Design a transformer based model with attention.* Course: Natural Language Processing	Dec. 2021
Hidden Markov Model Algorithm implementation <i>Python</i> <ul style="list-style-type: none">* Implement forward, backward, viterbi and Baum–Welch.* Course: Stochastic Processes	Dec. 2021

Languages

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| • Persion (native) | • English (fluent) | • Arabic (familiar) |
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Hobbies and Interests

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| • sports (football) | • playing chess | • reading book, papers |
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