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 retrival 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

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

∗ **Top student** 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
* **Cyber Physical Systems**, Prof. Mehdi Kargahi

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, Arduino

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 | *C++* **March 2018**
* Implementation of graphical game in which an attendant must remove bricks to get more points.
* Course: Advanced Programming

Poems Classification | *Python* **October 2019**
* Classification of poems of Saadi and Hafez by Naive Bayes algorithm.
* Course: Artificial Intelligence

MIPS Processor Simulation | *Verilog* **January 2019**
* Design and simulation of a MIPS Processor with Verilog including single cycle, multi-cycle, pipeline, and cache.
* Course: Computer Architecture

Loghmeh (Food Delivery) | *Java, Spring, React, HTML, CSS* **April 2020**
* Development and deployment of backend and frontend of online food-delivery.
* Course: Internet Engineering

Electric Circuit Solver | *Python* **April 2020**
* A software for visualizing and solving electrical circuits.
* Course: Electric Circuits

Compiler for ActON based Language | *Java* **April 2019**
* Implementing lexical and syntax analyzer, name analyzer, type analyzer, and code generator.
* Course: Compiler Design and Implementation

ARM Processor | *Verilog* **June 2020**
* Implementation of an ARM processor with SRAM and Caches on FPGA.
* Course: Computer Architecture Lab

Multiplayer Bluetooth mobile game | *Android* **July 2021**
* Developing a real-time multiplayer mobile game like Tank Trouble, over Bluetooth. This project was implemented using Android Studio.
* Course: Real Time Embedded Systems

Multilingual questions and answers retrieval with BERT | *Python* **September 2021**
* Fine tuning BERT model for question and answer retrieval.
* B.Sc. Thesis

Persian Sentiment Analysis | *Python* **Nov. 2021**
* Design models in three different ways(logistic regression, CNN, and BERT) and compare them in sentiment analysis.
* Course: Natural Language Processing

Persian to Tajik transliteration and vice versa | *Python* **Dec. 2021**
* Design a transformer based model with attention.
* Course: Natural Language Processing

Hidden Markov Model Algorithm implementation | *Python* **Dec. 2021**
* Implement forward, backward, viterbi and Baum–Welch.
* Course: Stochastic Processes

Languages

- Persion (native)
- English (fluent)
- Arabic (familiar)

Hobbies and Interests

- sports (football)
- playing chess
- reading book, papers