Alireza Eslamikhah

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EDUCATION

Bachelor of Science in Computer Engineering
Iran University of Science And Technology — ***Oct 2020 - Sept 2024***
Among the Top 4 Universities in Iran — *Tehran , Iran*

GPA of the Last Two Years: **3.75/4.0**
Overall GPA: **3.6/4.0** (17 /20 in Iranian Scale)

Thesis: Anomaly Detection in Network Using Machine Learning

Diploma in Mathematics and Physics — ***2016-2020***
Overall GPA: (4/4) or 19.04/20 in Iranian Scale — *Tehran , Iran*

RESEARCH INTERESTS

Software Engineering Programming Languages Human Computer Interaction
Psychology and Education in CS Practical Artificial Intelligence Operating Systems

RESEARCH EXPERIENCE

Research Assistant at Distributed Systems Laboratory — ***July 2023 – Current***
Under supervision of **Dr. Reza Entezari Maleki** — ***IUST University***

- Conducted research on network traffic classification for our paper
- Focusing on concept evolution, handling unbalanced and perturbed data
- Utilizing various active learning and reinforcement learning frameworks to enhance classification accuracy
- Analyzing and interpreting data to support the development of innovative solutions for Quality of Experience challenges

SKILLS

Programming Languages: Python, C++, C, C#, Java, Kotlin, SQL, HTML, CSS
Web Frameworks: ASP.NET, Django
Tools and Platforms: Git, Azure Devops, ANTLR | SQLite, PostgreSQL, MSSQL
Soft Skills: Team working, Communication, Adaptability, Creativity, Piano, Swimming
Other Skills: Cisco Packet Tracer, Wireshark, Android Studio, Linux

ACADEMICAL EXPERIENCE

Teaching Assistance ***Sep 2022 – Sep 2024***

Operating System — Fall 2024
Instructor: Dr. Reza Entezari Maleki

Compiler Design — Spring 2024
Instructor: Dr. Saeed Parsa

Operating System — Fall 2024
Instructor: Dr. Vahid Azhari

Database Design — Spring 2023
Instructor: Dr.Hossein Rahmani

Fundamentals of Programming — Fall 2023
Instructor: Dr.Mehrdad Ashtiani

Computer Architecture — Spring 2024
Instructor: Dr.Amir Mahdi Hosseini Monazzah

Discrete Mathematics — Spring 2024
Instructor: Dr.Vesal Hakami

Data Communication (Head TA) — Spring 2024
Instructor: Dr.Marzieh Sheikhi

INDUSTRIAL EXPERIENCE

Software Engineering Intern (Back-End) ***2021-2022 Hasin Company***

- Developed back-end systems using ASP.NET Framework and C#
- Implemented database management with Entity Framework
- Collaborated on front-end development using HTML and JavaScript
- Worked on real-time communication features through socket programming

SELECTED ACADEMIC PROJECTS

Vakil Pors

Backend Developer in VakilPors Project based of ASP.NET framework. VakilPors is a website for finding the suitable lawyer and solving your legal issues, containing features such as Chat Box, Video call, Telegram bot etc. Ranked as the top project in Software Engineering course.

Compiler Design and Programming Languages Projects

Worked extensively with the ANTLR framework to construct abstract syntax trees (AST) and streamline the parsing process. Delved into intermediate language (IL) generation to bridge high-level C# language constructs with machine-level code, also measured several code quality criteria in the final project, ensuring optimized and maintainable code.

Computational Intelligence Mini Projects

Developed and implemented machine learning models and control systems using Python. Created a Multilayer Perceptron (MLP), Genetic Programming algorithms, and Fuzzy Control systems, leveraging NumPy for efficient computations and data processing. Utilizing these techniques to solve complex problems in machine learning and control theory.

Operating System Development on XV6

Enhanced the xv6 operating system by adding custom system calls for generating various threads and handling the zombies in system through the Windows Subsystem for Linux (WSL). Also in other course home works designed and implemented threads and pipelines to enable parallel processing, improving system efficiency and multitasking capabilities. Gaining hands-on experience with low-level OS development.

Mathematical Equation Discovery Using Genetic Programming

Utilized genetic programming to evolve a population of potential mathematical equations, aiming to discover the equation that best fits a given dataset, involving iteratively candidate solutions through selection, crossover, and mutation to achieve optimal results.

Samarium

Samarium Project is an Android app developed with Kotlin to enhance network performance by measuring Quality of Experience (QoE) parameters from an end user's perspective. Providing network operators with insights into service quality, correlating these measurements with Key Performance Indicators (KPIs) from the Radio Access Network (RAN) and core network, even as users move through the network.

My Market

Designed and developed My Market, a web application built using Blazor, a modern ASP.NET framework. This project involved creating a dynamic and interactive user interface, leveraging Blazor's capabilities for efficient, server-side web development.

Theory of Language and Automata Project

Implemented algorithms for Deterministic Finite Automata (DFA), Nondeterministic Finite Automata (NFA), and Turing Machines as part of the course.

HONORS, CERTIFICATES & AWARDS

Ranked within Top 1% in Iranian University Entrance Exam ***July 2020***
Mathematics and Physics Major

Data Structures ***Jan 2022***
Certificate earned from UC San Diego in Coursera

Algorithmic Toolbox ***Nov 2022***
Certificate earned from UC San Diego in Coursera

Honorary Member of Scientific Association for four Consecutive Terms ***2022 – 2024***
Iran University of Science and Technology, Computer Engineering Department

IELTS Academic ***Aug 2024***
Listening 7.5 – Reading 7.5 – Writing 6 – Speaking 6.5

SELECTED COURSEWORK

Compiler Design	*A+*	*Software Engineering*	*A*
Databases	*A+*	*Data Communication*	*A+*
Operating Systems	*A+*	*Advanced Programming*	*A*
Engineering Mathematics	*A+*	*OS Lab*	*A+*
Graph Theory and Algorithms	*A+*	*Methodology of Research*	*A+*
Computer Aided Design	*A+*	*Computer Architecture*	*A*
Data Structures	*A*	*Cybersecurity*	*A+*
System Analysis and Design	*A*	*Differential Equations*	*A+*
Fundamentals of Mobile Systems	*A+*	*Theory of Languages and Automata*	*A*
Entrepreneurship	*A+*	*Computer Architecture Lab*	*A+*
Computer Networks Lab	*A+*	*Mathematics II*	*A+*
Logical Circuits	*A*	*Microprocessor and Assembly Language*	*A*

REFERENCES

Dr. Reza Entezari Maleki: Assistant Professor in Department of Computer Engineering of IUST
entezari@iust.ac.ir
Dr. Mehrdad Ashtiani: Assistant Professor in Department of Computer Engineering of IUST
m_ashtiani@iust.ac.ir
Dr.M.Monazzah: Assistant Professor in Department of Computer Engineering of IUST
monazzah@iust.ac.ir