Aryan Ebrahimpour

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About Me

Hi! My name is Aryan (Hossein) Ebrahimpour. I'm a passionate site reliability and software engineer with a Master's in Computer Engineering from IUST. Since middle school, programming has been my obsession. I thrive on building robust cloud-native systems and love writing about technical topics on my blog. My interests also extend to math, history, and writing.

EDUCATION

Iran University of Science & Technology

Master's degree, Computer Engineering

- Cumulative GPA: 4.0/4.0 (90.8%)
- At Iran University of Science & Technology, I've studied performance evaluation of computer systems, distributed systems, cloud and grid computing, data mining, dynamic complex networks, and fault tolerance of software and hardware systems. Thesis focused on scheduling algorithms in serverless platforms and FaaS environments.

University of Guilan

Bachelor's degree, Computer Engineering

- Cumulative GPA: 4.0/4.0 (95.9%) | Ranked 2nd among all of the students.
- At University of Guilan, I began to share my knowledge about programming and web design with other students. After that, I became a member of the academic forum and participated in an ACM programming contest with the result of honorable mention. I had in-class presentations about Agile software methodologies, DevOps, Refactoring and Bad smells in code, processes and threads, SQL Server and Entity Framework related presentations, Economical and social topics like Human Development Index, Informal Sector, etc.

PUBLICATIONS

A heuristic-based package-aware function scheduling approach for creating a trade-off between cold-start time and cost in FaaS computing environments March 7 2023

Springer • The Journal of Supercomputing • $\underline{\text{Read Paper}}$

EXTRACURRICULAR ACTIVITIES

Mentor of the IUST Cloud Computing Center

• Volunteered at the Cloud Computing Center of Iran University of Science and Technology, a research cloud lab supervised by Dr Mehrdad Ashtiani. I've developed multiple tools on top of the OpenStack's API to administrate resources and distribute them among students. After one year, I became the mentor of the lab and helped many students to learn about cloud computing glossary and get started with OpenStack.

CERTIFICATES

Social Network Analysis, University of California, Davis (<u>coursera.org/verify/F44QT4ETVENC</u>)

SKILLS

- Languages: TypeScript/JavaScript, Go, C#, F#, Bash, PowerShell
- FrontEnd: HTML/CSS, React, NextJS, Vue, Nuxt
- Cloud & DevOps: Docker, Kubernetes, Caddy, Linux, Helm, ArgoCD, OpenStack, Network Concepts (HTTP, DNS, ICMP, ARP, etc)
- Tools & Other: SQL, Git, Technical Writing, AutoHotkey Scripting, Electronics (Arduino and ESP32)

You can read more about the details of the skills listed above at <u>avestura.dev/resume</u>.

Tehran, Iran 2019 — 2022

2020 - 2022

June 2020

2015 — 2019

Rasht, Iran

WORK EXPERIENCE

Tech Lead

Abramad (A member of SystemGroup)

- Led a cross-functional team of 10 engineers in the design and development of production-ready Cloud infrastructure features.
- Actively contributed to and oversaw the implementation of key services, including:
 - Virtual Private Cloud: VM provisioning, IP/firewall management, snapshots, backups.
 - Cloud Storage (S3): Web-based file browser, S3 credential management.
 - Cloud DNS: Domain and DNS record management.
 - Financial Platform: PAYG pricing, cost calculator, wallet management, invoicing.
 - Admin Panel: Internal services for cloud administrators.
 - Monitoring & Documentation: Infrastructure observability and product documentation.
- Collaborated closely with engineers to architect solutions, perform code reviews, and ensure high standards across delivery.
- Promoted a collaborative engineering culture while driving strategic decisions across the stack.
- Contributed to hiring, mentoring, and creating a high-performance engineering team

DevOps Team Lead

SystemGroup

Aug 2021 — Mar 2024 Tehran, Iran

- Designed and developed a Kubernetes-based Tenant Manager, enabling lifecycle management (provisioning, updates, monitoring) for thousands of tenant environments and their associated pods/containers.
- Led the DevOps team responsible for infrastructure automation and scalability of ERP systems, for both large enterprises and SMEs.
- Implemented an automated, configurable Point-in-Time Recovery (PITR) backup service for PostgreSQL, improving data resilience and recovery capabilities.
- Ensured high availability, observability, and reduced downtime and deployment issues by implementing standardized CI/ CD pipelines.
- Collaborated with development teams to improve the performance of deployment pipelines and enforce best practices across cloud-native services.

Software Engineer

SystemGroup

- Contributed to the development of a custom Continuous Testing framework called <u>SG.CodeCoverage</u>
- Redesigned SystemGroup's Test Framework using Cypress API
- Became the system administrator of multiple linux servers in the company
- Developed a feature-rich Azure DevOps extension for streamlined internal testing and monitoring.
- Created company's open-source GitHub organization
- Created a fast coverage calculator with a graphical web and desktop dashboard
- Contributed to the microservice architecture design and development of the cloud-native services of the company

Software Engineer

HOMATEC

- Developed and delivered industrial-grade applications, including:
 - CityCloud: a cloud-based file storage platform
 - Bafgh Automation: an enterprise automation application for a large company in Yazd. It includes reading weightbridge data, store it locally and sync with the central server, drag and drop report designer and more...

PERSONAL PROJECTS & OPENSOURCE

My Personal Website (avestura.dev)

• I have written the backend and frontend of my personal website in TypeScript using amazing technologies such as NextJS and React. It includes my blog posts, public S3 drive, presentations, books, snippets, and more.

EyesGuard (github.avestura.dev/EyesGuard)

• Eyes Guard is a Windows Application for protecting your eyes. It will help you (also can force you!) to break if you are working with your PC for a long time using configurable times.

2016 - 2018

Tehran, Iran

Mar 2024 — Present Tehran. Iran

May 2017 — Present

May 2021 — Present

Tehran, Iran

Aug 2019 — Aug 2021

• Avestura's PasteBin is a modern paste bin with RESTful API. I created it using React, Next, Blueprint, MinIO S3 Object Storage, and Redis for rate-limiting.

Photo Firemark (github.com/avestura/PhotoFiremark)

- PhotoFiremark hides a photo in another photo using Steganography techniques
- You can read my blog post about the technique <u>here</u>.

Many other OpenSource projects

- I have created and contributed to many projects over the past few years. You can have access to a handful of them using my github source projects, personal projects webpage, and my open-source listing
 - These lists include but are not limited to projects such as:
 - Dooz Game: A Tic-Tac-Toe GUI app in C++
 - Aryogram: a telegram-looking chat app with a custom protocol on top of TCP and graph path-finding algorithms.
 - Assembly projects: projects such as dc-motor speed control using ATMega32, and a calculator written in assembly and simulated in Proteus, with keypad support using scanning.
 - Hasti Lang: a persian right-to-left programming language, written using F# and FParsec parser combinators.
 - Event Template: a vanilla html/css/js template I've created for my events website without using any frameworks or 3rd party libraries.
 - Othello GUI: a gui othello game with a heuristic ai using min-max tree and alpha-beta pruning.
 - Khorshid: a simple telephone taxi management gui desktop app that I wrote for my mother's tourism institute.

BLOG HIGHLIGHTS

More at <u>avestura.dev/blog</u>

- Creating a Git Commit: The Hard Way A deep dive into Git's low-level internals.
- Explaining the PostgreSQL Meme A fun, technical exploration of PostgreSQL from top to bottom.
- Problems of C, and How Zig Addresses Them An overview of Zig as a modern alternative to C.
- Understanding Zero-Knowledge Proofs Simplifying a complex cryptographic concept.

TALKS

More info at $\underline{avestura.dev/talks}$

The new generation of cloud architecture in large-scale software	Tehran, Iran
SystemGroup Event at University of Tehran	Feb 27, 2025
100 Go Mistakes and How to Avoid Them	Tehran, Iran
SystemGroup Tech Event (Tech Talk)	July 29, 2024
C# Bootcamp	Tehran, Iran
A code bootcamp held in four sessions in SystemGroup	Dec 21, 2023
Cloud Native ERP DevOps	Tehran, Iran
SystemGroup Baham Event at Tehran International Exhibition Centre	Dec 24, 2023
Automated End-to-End Testing at SystemGroup	Tehran, Iran
Online SystemGroup Webinar	Sep 20, 2021
Refactoring Code with C# Examples	Rasht, Iran
A live talk about code refactoring in Software Talks YT Channel	July 10, 2019

Apr 2018 — May 2022

Nov $2018- {\rm Present}$

2015 - Present