

# Pouria Kalantari

SOFTWARE ENGINEER

☎ (+98) 933-856-7205 | ✉ 99pouria@gmail.com | 📱 99pouria | 💻 pouria-kalantari

## Summary

Software Engineer with expertise in system and backend development. Experienced in designing scalable infrastructures, building system-level tools, and improving legacy architectures. Proven ability to collaborate with teams, mentor new joiners, and write maintainable, high-quality code. Passionate about solving technical challenges and staying current with emerging technologies.

## Work Experiences

### Digikala - Iran's largest e-commerce platform and online marketplace

Tehran, Iran

SOFTWARE ENGINEER

Mar. 2024 - present

#### • Variant Creation Rewrite

Collaborated on the architectural transformation of Digikala's variant creation system, migrating from MVC to **Domain-Driven Design** patterns. Refactored legacy codebase and consolidated duplicate logic implementations, improving code maintainability and reducing technical debt. Achieved 20% increase in vendor satisfaction scores across 200 top vendors through enhanced system efficiency and reliability.

#### • Risk Mitigation Project

Designed and implemented automated content moderation system using **Elasticsearch** for real-time restricted word detection and developed frontend components using **Twig**. Collaborated with business team and product managers to define and implement risk assessment parameters. Significantly improved moderator accuracy through automated content analysis and risk scoring system.

#### • Multi Variant Infrastructure Project

Architected and implemented enterprise-scale variant management system enabling multiple themes per product. Conducted comprehensive code analysis to identify and refactor variant-related dependencies across the codebase. Was involved in collaboration with multiple tribes (shop, finance, fulfillment, delivery) to ensure system-wide compatibility. Designed and implemented a centralized theme data service, enabling other services to access theme-related functionality through standardized service calls.

### Graph-inc - a cybersecurity company offering an Advance Threat Detection system

Tehran, Iran

GOLANG SYSTEM DEVELOPER IN LINUX EDR TEAM

Feb. 2021 - Mar. 2024

- Developed client side of EDR (Endpoint Detection and Response) with **Golang** for Linux operating systems and ensured deployment on over 2000 Linux systems, resulting in awarded client security and enhanced threat detection capabilities.
  - Established **gRPC** as the primary communication protocol between client and server.
  - Implemented a log collector which gathers system logs (like **Audit** logs, **Fanotify** notifications) and sends to server.
  - Designed an auto response mechanism that protects client against detected malware.
  - Developed and implemented a dual service solution for both **Systemd** and **SysVinit**.
  - Wrap the product using **RPM** and **DEB** package manager which is compatible with CentOS, Red-hat, Ubuntu and Fedora distributions to facilitate initial installation and safe update.
  - Launched an updater service with Golang that automatically updates the package.
- Restructured server side database using Golang's **Ent framework**, resulting in a 10% decrease in query execution benchmark time.
- Customized comprehensive unit tests for Golang packages, ensuring code quality and reducing bug count.

### Sanjagh - an advertising network platform that connects advertisers with publishers

Tehran, Iran

GOLANG DEVELOPER

Feb. 2020 - Jul. 2020

- Launched a highly efficient URL Shortener project during internship at Sanjagh, reducing link generation time by 50% and improving overall website performance by optimizing URL redirects.
- Learned to produce APIs and writing **RESTful API** using **echo framework**.
- Created a cache service using Golang which caches response of another service. This cache improved response time up to 10 times faster.

## Skills

### Programming Languages

Golang, PHP, Python, C

### Linux Internals

System calls, logging systems (e.g. Syslog, Rsyslog), auditing system, package managers (RPM, DPKG)

### Database

MySQL, SQLite, PostgreSQL, Redis

### Other

REST API, gRPC, Elasticsearch, Docker, Twig

### Languages

Work Proficiency: English      Native: Persian

## Projects

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### Automated Program Repair

This project is an automated program repair tool tailored specifically for Golang, with a focus on improving concurrent code reliability. Its primary goal is to assist developers in debugging and automatically repairing concurrency-related issues, particularly the common problem of missing `sync.WaitGroup` usage when managing goroutines.

### Modified xv6 OS

Modified xv6, a simple Unix-like teaching OS developed at MIT, by implementing a round-robin scheduler to manage CPU time fairly among processes. Added a custom system call, `getChildren`, by extending the process structure and modifying the `fork` syscall to track child processes using a new global variable.

### Modified xv6 OS

Developed a URL shortener in Golang using Redis for fast URL storage and retrieval, with short UUIDs ensuring unique, efficient link generation and reliable redirect management.

## Honors & Awards

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### DOMESTIC

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|------|---|---------------------|
| 2018 | <b>Ranked in top 1% among 144,843 applicants</b> , Nationwide University Entrance Exam  | <i>Tehran, Iran</i> |
| 2017 | <b>Bronze Prize</b> , National Mathematics Olympiad - Iran's National Elites Foundation | <i>Tehran, Iran</i> |

## Education

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### Shahid Beheshti University

M.C.S. IN COMPUTER SCIENCE

*Tehran, Iran*  
*Oct, 2024 – Expected 2026*

- Specialization:
  - Algorithms

### Amirkabir University of Technology

B.C. IN COMPUTER ENGINEERING

*Tehran, Iran*  
*Oct, 2018 – Sep 2023*

- Thesis Subject:
  - Automatic Repair of Golang Programs
  - Supervisor: Dr. Mehran Soleiman Fallah