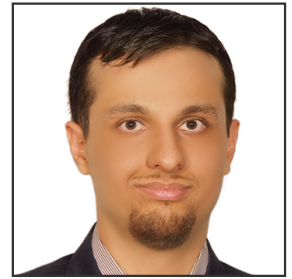# Sina **Momken**

JAVA DEVELOPER · BACKEND DEVELOPER

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sinamomken | digitsm

Work Experience

Negah Tech. Holding of Karafarin Bank
Tehran, Iran

SENIOR SOFTWARE ENGINEER - SENIOR JAVA BACKEND DEVELOPER
Sep. 2020 - Present

Supply Chain Finance Project

- Backend development of a unique B2B product for Karafarinbank targeting corporate clients as part of a 12 members team.
- Written in Java^{TM} 17 with Spring Boot 3 utilizing Clean architecture for each service and Microservices architecture for the whole system in Orchestration method. Also using multiple MongoDB NoSql DBs, RabbitMQ message-broker, Redis cache, Kubernetes orchestration system and KeyCloak SSO for authentication and authorization.
- Using Spring Data Mongo and Spring Data JPA, Feign http client, MapStruct for mapping between models, Slf4J for logging and a custom CDN client.

Hibank Platform

- Backend development of the million $ Omni-Channel NeoBank of Karafarin Bank with up to 100'000 users as part of a 15 members team.
- Written in Java^{TM} 11 with Spring Boot framework utilizing a 4-layers backend architecture (controller, facade, service, repository), using Oracle^{TM} 19c relational DB, MongoDB NoSql DB, Redis cache and ELK stack.
- Using Spring Data JPA on top of Hibernate as ORM, Retrofit and RestTemplate as http client, MapStruct and ModelMapper for mapping between Entities and DTOs, QueryDSL and native queries for executing complex queries, Slf4J on top of Logback for storing logs into file, stdout and Logstash, managing database changes and migrations by Liquibase and storing files into MinIO Object Storage file server.
- Reducing number of generated queries by ∼50% by correcting definition of entities in Spring Data JPA, removing redundant bidirectional relations and resolving n+1 queries problem.
- Reducing the average response time of critical APIs by 66% by caching minimally changing data from Oracle into memory.
- Passing load tests with up to 1000 users/second in Apache JMeter until reaching the Karafarin gateway limits.
- Decreasing Oracle database size up to 40% periodically by shrinking table and LOB space resulting in infrastructure cost savings.
- Prevent logging of file contents in request and response bodies and masking sensitive information while logging other valuable information.
- Increasing speed of frequent queries by monitoring and adding appropriate indexes to relevant tables using Oracle SQL Tuning Advisor.
- Setup of ELK stack and connecting it to the backend server to replace logging in Oracle, potentially improving API response times.
- Improving the platform's security by storing hashed passwords and public/private/shared keys used in cryptography between the backend and mobile clients.

Legacy Internet Bank Project

- Maintain and development of the legacy Internet Bank project of Karafarin Bank, written in Groovy language with Grails framework for backend and HTML/CSS/JavaScript languages with Jquery framework for frontend.
- Using MVC architecture, GSP server-side rendered pages, GORM on top of Hibernate ORM, complex HQL queries and Oracle 10g as database.
- Fixed a critical bug in application Filters, reducing log file size from 18GB/hr to 100MB/hr, saving the underneath infrastructure.

Carpino, 3rd Ride Hailing app in Iran
Tehran, Iran

SOFTWARE ENGINEER - ANDROID DEVELOPER
Jun. 2019 - Apr. 2020

Rewrite of Carpino-Passenger android app from scratch

- Android development of a million $ Carpino ride hailing startup with up to 10'000 rides/day as part of a 6 members mobile team.
- Using Kotlin language with Room ORM and SQLite DB, utilizing 3-layers MVVM android architecture with LiveData observables.
- Using modern libraries like Dagger-Android dependency injection and Retrofit http client.

Carpino-Driver android app

- Solved the challenge of GPS noise in the 3D navigation system of the driver app and added Hotzones to the map showing high ride demands.
- Collect of usage and crash data using Firebase Analytics, old Google Analytics, Crashlytics and Adtrace.
- Also used a 3-layers MVC android architecture with RxJava async library, Retrofit http client and various third party UI libraries.
- Participation in reaching the goal KPIs by close collaboration with technical, design, product, marketing and data science teams.

Kaveh Information Services
Tehran, Iran

SOFTWARE ENGINEER - ANDROID DEVELOPER
Apr. 2015 - Jun. 2016

Keloud project

- Design, development and customization of Keloud android app, based on OwnCloud.
- Connecting the app to the novel Keloud authentication, storage and sharing services for synchronizations.

Dadegan Research Group

RESEARCH INTERN - .NET DEVELOPER

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Tehran, Iran

Sep. 2010 - Dec. 2010

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Projects "Persian Dependency Treebank" and "Valency Lexicon of Persian Verbs"

- Design and implementation of a networked desktop application for annotators so they could easily mark and annotate different parts of an NLP linguistic corpus in parallel.
- Development of a UI and a central DB available over the network using C#.net and Microsoft SQL Server.

Education

Java Spring Framework

160 HOURS COURSE BY ALI RAHMANIAN

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alirahmanian.com

Jul. 2021 - Nov. 2021

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University of Tehran

M.SC. IN COMPUTER SCIENCE, ALGORITHMS AND COMPUTATION

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Tehran, Iran

Sep. 2014 - Sep. 2017

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- **GPA: 17.16/20.00**
- *Thesis title:* An Efficient Algorithm for De Novo Metagenome Assembly.

Iran University of Science and Technology

B.SC. IN COMPUTER ENGINEERING, SOFTWARE MAJOR

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Tehran, Iran

Sep. 2007 - Mar. 2013

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- **GPA: 17.58/20.00 (1st place)**
- *Thesis title:* Development of an Optimized Web Browser for Android Operating System.

Allameh Helli High School

DIPLOMA IN PHYSICS AND MATHEMATICS

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Tehran, Iran

Sep. 2003 - Jun. 2007

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- **GPA: 19.19/20.00**
- *Affiliated with National Organization for the Development of Exceptional Talents (NODET).*

Skills

Programming Languages	• **Backend:** Java^{TM} SE/EE 8, 11 & 17, Groovy, Kotlin, C#, ASP.Net, PL/SQL, JPQL • **Frontend:** HTML, CSS, JavaScript, JQuery, Markdown • **Embedded Systems:** C/C++, Bash Script • **Scientific:** MATLAB, R, Python
Frameworks, Libraries & Architectures	• **Backend:** Spring Boot framework 2 & 3, JPA specification, Hibernate ORM, Retrofit, RestTemplate & Feign http clients, MinIO client, Jedis redis client, Spring Data JPA and Spring Data Mongo apis, Liquibase DB migration, Grails framework, .Net Framework, ASP.Net MVC architecture, Multi-Modules & Micro-Services architectures • **Frontend:** Jquery, BootStrap, a little React.js • **Embedded Systems:** a little Qt framework, Linux kernel
Databases	Oracle 19c, PostgreSql, MySql, SQLite, MS SQL Server, MongoDB, Redis Cache, ElasticSearch
Operating Systems	Linux (Debian and RPM based), Windows, a little MacOS, OpenWRT, FreeBSD, TrueNAS
Development Tools	Intellij IDEA Ultimate, Visual Studio, VS Code, DBeaver, Oracle Sql Developer, TOAD for Oracle, MongoDB Compass, Redis Insight, Redis Desktop Manager, Postman, curl, Docker, a little Burp Suite
Test Tools & Test Suites	JUnit, SpringBootTest & MockMvc, NUnit, familiar with TFD, TDD, BDD & DDD, Jenkins, Apache JMeter
Bug Tracking, Documentation & Source Control	Jira, Confluence, Bitbucket, Git, GitLab, GitHub, TFS, SVN, DokuWiki, LaTeX, Visio, Visual Paradigm, Rational Rose, Asana, Trello
Languages	• **English:** fluent, TOEFL iBT 87 (R=26, L=18, S=18, W=25), GRE General (V=141, Q=167, W=3.5) • **Persian:** native

Honors & Awards

2013	**1st GPA**, among all IUST software major B.Sc. students (among ∼40) enrolling since Sep. 2007.	*Tehran, Iran*
2009 2008	**Ranked 25th & 35th**, at ACM-ICPC West Asia Regional Contest	*Tehran, Iran*
2007	**Ranked %0.8**, among ∼350,000 competitors of national B.Sc. university entrance exam in Math and Physics.	*Tehran, Iran*

Writing

Metagenome Assembly: Explanation, Challenges and Future Trends

S. Momken, K. Kavousi, A. Banaei, D. Moazzami

Improved metaSPAdes results and ran it over simulated data on a regular computer with 16GBs instead of hundreds of GBs of RAM.