

Mohamad Reza Chegini

Principal Backend & Platform Engineer

Tehran, Iran (Remote, UTC+3:30) — Open to relocation: UAE / Europe / Singapore

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Summary

Principal-level backend and platform engineer with 15+ years across distributed systems, financial technology, and low-level/embedded software. Designed and built a multi-tenant cloud (IaaS) platform end to end — 21 microservices on an event-driven backbone with saga orchestration, running Kubernetes-native compute (VMs, containers, managed clusters). Deep fintech background: cryptocurrency exchange matching engines, BNPL platforms, and immutable ledgers. Fluent across Go, C/C++, Java, and TypeScript, with a strong bias toward Domain-Driven Design, CQRS, and idempotent, fault-tolerant systems.

Core Skills

- **Languages:** Go, C/C++ (C++20), Java, C#/ .NET, TypeScript, Rust, Python
 - **Architecture:** Domain-Driven Design (DDD), CQRS, Event Sourcing, Event-Driven Architecture, Saga Orchestration, Modular Monolith, Clean / Hexagonal Architecture, Microservices
 - **Distributed & Messaging:** Kafka / Redpanda event choreography, gRPC asynchronous streaming, WebSocket bidirectional gateways, REST, idempotent processing
 - **Cloud & Kubernetes:** Kubernetes, KubeVirt, kube-ovn (SDN / per-tenant VPC), k0smotron (managed clusters), Rook-Ceph, Helm, Ansible (IaC), Docker, GitLab CI / GitHub Actions
 - **Security & Auth:** ORY Kratos, ORY Oathkeeper, HashiCorp Vault, JWT / OAuth2, secure multi-tenancy
 - **Data & Storage:** PostgreSQL, Redis, Ceph object storage, GORM, Elasticsearch
 - **Observability & Delivery:** Zap structured logging, Prometheus, Swagger / OpenAPI, append-only audit / event-sourced trails
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Experience

Dadehat — Principal Software Engineer

2025 – Present

Multi-tenant cloud / IaaS platform — Remote (Tehran, Iran)

- Architected **21 Go microservices** on an event-driven backbone (Kafka / Redpanda) with command/event separation (CQRS) and a dedicated **saga orchestrator** that runs long-lived provisioning workflows with **compensation / rollback**.
- Built tenant isolation on Kubernetes using **kube-ovn**: per-project **VPCs and subnets**, 1:1 NAT public IPs (OvnFip), and per-NIC stateless firewalls (SecurityGroups).
- Delivered self-service compute: **VMs via KubeVirt** (cloned from golden images), **containers** as Kubernetes Deployments, and **managed child Kubernetes clusters via k0smotron**; persistent storage on **Rook-Ceph**.
- Implemented metered, wallet-based billing on an **append-only ledger** with **idempotent** payment processing (idempotency keys + processed-event tracking); authentication via **ORY Kratos + Oathkeeper**, secrets via **HashiCorp Vault**.
- Streamed real-time saga and log events to a React/TypeScript console through a **WebSocket gateway**; instrumented with Zap structured logging, Swagger/OpenAPI, GitLab CI, and Helm + Ansible infrastructure-as-code.
- **Stack:** Go, Gin, GORM, Kafka/Redpanda, PostgreSQL, Redis, Kubernetes, KubeVirt, kube-ovn, k0smotron, Rook-Ceph, ORY (Kratos/Oathkeeper), Vault, React/TypeScript.

Cryptocurrency Exchange Platform — Lead Backend Engineer & Architect (Freelance)

2025

Spot trading platform for a client — Remote

- Architected a microservices crypto exchange (Spring Boot / Java) with a **hybrid design**: WebSocket for real-time market data (order book, tickers, trades), REST for transactional order and wallet operations.
- Built the core services — **order-matching engine**, JWT-authenticated WebSocket gateway, API gateway, order-lifecycle service, **multi-currency wallet orchestrator**, and a user / KYC service.
- Event-driven over **Kafka**; PostgreSQL and Redis; containerized with Docker Compose behind Nginx; React / TypeScript trading interface.

TapsiFood (Golrang Group) — Senior Software Engineer

2025

Vendor / marketplace & notification systems — Tehran, Iran

- Evolved vendor/marketplace systems as a **modular monolith** with explicit domain boundaries (Store, Menu, VendorUser).
- Replaced rigid status enums with a **database-backed strategy pattern**, letting business teams reconfigure vendor workflows without code changes.

- Implemented business-type-specific pricing policies (e.g., Bakery, CoffeeShop) with **Redis**-based tracking for compliance and fairness.
- Built a **NestJS** notification platform (SMS / push / email) and integrated Formbricks for in-product feedback.

Iranian Welfare Information Technology Services — Product Development Manager 2024 – 2025
BNPL platform & digital marketplace — Tehran, Iran

- Led a **.NET Core BNPL** (Buy-Now-Pay-Later) platform and digital marketplace for retirees, applying **DDD**, **CQRS**, and **Clean Architecture**.
- Drove **event-driven** loan and payment workflows over **Kafka**; coordinated delivery across engineering, operations, and government stakeholders.

IGap Messenger — Senior C++ Engineer 2022 – 2023
Content-delivery infrastructure — Tehran, Iran

- Built a high-performance upload/download service using **gRPC asynchronous streaming**.
- Integrated **Ceph object storage via librados** for content storage at platform scale, with a Redis caching layer.

Freelance — Senior C++ / Networking Engineer 2023 – 2024

- Designed cross-platform VPN solutions using **StrongSwan**, **IPsec**, and **WireGuard**; delivered modular, high-performance networking components in modern C++.

Rahgozin Rayane — Team Lead, C/C++ & Embedded 2020 – 2022
Tehran, Iran

- Led embedded development; built a **multi-threaded state-machine editor** integrated with MATLAB Simulink.
- Developed **FPGA Linux kernel drivers** for real-time performance.

Mabna Card Aria — Senior C/C++ Engineer 2018 – 2020
Tehran, Iran

- Developed SDK drivers for Smart Card and Evolis card printers; built cross-platform cashless-ATM software (Linux / Windows / Android) with secure transaction protocols.

Faradis Alborz Co. — Embedded Systems Engineer 2014 – 2017
ATM security hardware & software — Tehran, Iran

- Designed and fabricated **ATM Guard** (anti-physical-attack device; embedded Linux + PIC microcontroller) and **ATM Anti-Skimming** (prevents card-skimming attacks).
- Built the **Signal & Indicator Unit (SIU)** for ATM signal/indicator control and developed its **SDK driver in C**.
- Developed a **WOSA/XFS (CEN/XFS)** application for ATM-to-Windows communication, and an **ATM Wireless Status Displayer**.
- Negotiated with foreign suppliers to customize and procure components; selected ATM security cameras.

Selected Projects

- **Open-source demonstrators** (github.com/telegraphchi): saga orchestration, idempotent double-entry ledgers, and concurrency primitives in **Go**, **Java**, **C#**, and **C++** — small, fully-tested implementations of the distributed-systems patterns above.

Publications

- “**Saga Orchestration in Go: Distributed Workflows That Actually Roll Back**” — dev.to, 2026. Covers the failure case 2PC cannot solve, the saga pattern, and a real dependency-free Go implementation with generics, best-effort compensation, and injected retry policy. (dev.to/telegrapher_chegini_5ffb4/saga-orchestration-in-go-distributed-workflows-that-actually-roll-back-26md)

Education

- **M.Sc., Nanotechnology** — University of Tabriz 2010 – 2013
- **B.Sc., Electrical & Electronics Engineering** — Qazvin Islamic Azad University 2002 – 2006

Languages

Persian (native) English (fluent)