

MEHMET FURKAN DOGAN

Senior Backend Engineer | Fintech & Blockchain Infrastructure
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Ankara, Turkey

PROFESSIONAL SUMMARY

Senior backend engineer with 5+ years of experience building production-grade financial systems, distributed architectures, and blockchain infrastructure. Architected and deployed a full cryptocurrency exchange with real Bitcoin and Ethereum integration, double-entry accounting, reconciliation, and enterprise security controls. Strong background in Go and Java, low-latency systems, and cloud infrastructure. Experience across fintech startups and large-scale automotive research at Volkswagen/EDAG.

CORE EXPERTISE

Cryptocurrency Exchanges • Financial Ledgers & Accounting
Blockchain Integration (Bitcoin, Ethereum) • Distributed Systems
Low-Latency APIs • Order Matching Engines
Cloud Infrastructure (AWS, GCP) • Security & Key Management

SELECTED PROJECTS

Production Cryptocurrency Exchange Platform

GitHub: github.com/mehmet-f-dogan/mfdexchange
Demo: mehmetfd.dev/mfdexchange/ui-demo.mp4

- Designed and built end-to-end cryptocurrency exchange with real BTC and ETH integration
- Implemented double-entry accounting, reconciliation engine, and full audit trails
- Integrated Bitcoin Core and Geth with automated deposit detection and withdrawal processing
- Implemented secure key management using HashiCorp Vault with hot/cold wallet separation
- Achieved 1000+ TPS for ledger operations and <50ms p95 API latency

Stack: Go, PostgreSQL, Docker, Bitcoin Core, Geth, HashiCorp Vault, Next.js

Architecture: Microservices, REST APIs, background workers, idempotent operations

Zero-Allocation Order Matching Engine

GitHub: github.com/mehmet-f-dogan/fairbook

- Built deterministic, allocation-free order matching engine for trading systems
- Achieved 179 ns/op benchmarked performance with zero allocations in hot path
- Implemented price-time priority (FIFO) with O(1) order cancellation
- Designed replayable event log for recovery, auditing, and backtesting
- Single-threaded architecture for predictable latency and simplicity

Use Cases: Exchange matching, low-latency trading, market microstructure research

Blockchain Implementation from Scratch

GitHub: github.com/mehmet-f-dogan/mfdcoin

- Built complete blockchain with cryptographic wallets, mempool, block production, and persistence
- Implemented ECDSA (secp256k1) transaction signing and validation
- Designed REST APIs for wallets, transactions, and blockchain queries
- Persistent storage using BadgerDB with thread-safe concurrent operations

PROFESSIONAL EXPERIENCE

TNB Teknoloji — Team Lead

Ankara, Turkey | Jan 2025 – Oct 2025

- Led team of 9, maintaining backend systems serving 100K+ daily users
- Improved throughput and reliability of Java-based services
- Integrated enterprise systems including Microsoft Dynamics CRM and Logo Tiger
- Designed and reviewed backend architecture for new services

DerivAsset — Senior Software Engineer

Ankara, Turkey | Aug 2023 – Jan 2025

- Built fintech microservices using Go, Java, Python, and TypeScript
- Designed and operated AWS infrastructure (EC2, RDS, Lambda, S3)
- Implemented CI/CD pipelines and deployment automation
- Optimized database access patterns and API performance

EDAG Engineering / Volkswagen — Software Engineer

Wolfsburg, Germany | Oct 2020 – Jun 2022

- Developed distributed systems for real-time electric vehicle fleet management
- Built services using Java, Go, React with REST and gRPC APIs
- Designed data pipelines processing 10M+ events per day
- Reduced cloud infrastructure costs by 40% using GCP services
- Contributed to ZOBAS project (Sustainability Award in Automotive 2023)

EDUCATION

Doctor of Medicine (Ongoing)

Ankara Medipol University | 2024 – Present

Master of Science, Applied Computer Science

Deggendorf Institute of Technology, Germany | 2020 – 2022

Bachelor of Science, Computer Engineering

Bilkent University, Turkey | 2015 – 2019

TECHNICAL SKILLS

Languages: Go, Java, TypeScript, Python, C#

Backend: REST, gRPC, Distributed Systems, Event-Driven Architecture

Finance: Double-Entry Accounting, Ledgers, Reconciliation, Trading Systems

Blockchain: Bitcoin Core, Geth (Ethereum), Wallet Architecture, ECDSA

Data: PostgreSQL, Redis, MongoDB, Neo4j, BadgerDB

Cloud: AWS, GCP, Docker, Kubernetes, CI/CD

Security: HashiCorp Vault, Key Management, RBAC, Audit Logging

LANGUAGES

English (Fluent) • Turkish (Native) • German (Intermediate)