Emre YILDIZ

Software Architect and Engineering Lead

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Summary

Experienced Software Architect and Engineering Lead with 7+ years developing enterprise-scale applications. Strong expertise in full-stack development, microservices architecture, blockchain technologies, and cloud platforms. Proven track record of leading technical teams, upgrading legacy systems, and delivering high-performance solutions for B2B e-commerce, fintech, and Web3 applications. Passionate about innovative technology solutions and continuous learning.

Work Experience

Software Engineer   2025 – Present

ChessDuello Software Technologies Corporation   *Remote*

- Developed iOS/macOS chess application with SwiftUI featuring unique trivia-based gameplay mechanics
- Built Supabase backend with Deno 2 Edge Functions, Hono framework, and Drizzle ORM for PostgreSQL
- Implemented real-time multiplayer system with WebSocket channels for live match synchronization
- Designed complex match system with 8-phase architecture including AI bots and tournament support
- Created comprehensive API layer with offline queue, automatic retry logic, and response caching

Founder and Software Engineer   2025 – Present

Medivizi   *Remote*

- Architected multi-tenant Occupational Health and Safety (OHS) backend system using Rust with Axum framework
- Implemented Row-Level Security (RLS) for tenant isolation with PostgreSQL and SQLx compile-time checked queries
- Built real-time features with WebSocket support and S3-compatible storage using Garage
- Developed admin dashboard with HTMX, Askama templates, and TailwindCSS for seamless user experience
- Designed comprehensive database schema for appointments, training management, and safety compliance tracking

Tech Lead   2023 – 2024

BergX Software   *Remote*

- Led technical decisions and architecture design for multiple projects
- Mentored team members and conducted code reviews
- Managed project timelines and technical deliverables
- Built **jrkripto.com** crypto news, analysis, and education platform with **Next.js** frontend and **NestJS** microservices backend
- Implemented event-driven architecture with **Kafka**; leveraged **Redis** Pub/Sub and caching for real-time updates
- Designed **MySQL** with read replicas and optimized data access patterns for high throughput
- Scaled infrastructure with load balancing and horizontal service replicas to support **20,000+ active users**
- Developed cross-platform mobile app with **React Native (Expo)** for iOS and Android
- Established centralized logging and monitoring with the **ELK** stack (Elasticsearch, Logstash, Kibana)
- Built DeFi dApps and a swap platform with **Next.js** and **Remix**, targeting Ethereum, zkSync Era, Arbitrum, Sui, Solana, and Aptos
- Authored and deployed smart contracts for staking, multisender, swap, token factory, vesting, and token lock using **Solidity**, **Move**, and **Rust**
- Implemented CEX/DEX trading bots with **Bun** and **TypeScript** for volume making, balance arbitrage, and market making
- Achieved significant exchange traction; one project reached **$25M+** trading volume on MEXC

Software Engineer   2021 – 2023

Gunkom Software   *Remote*

- Upgraded company core boilerplate framework from .NET Core 3.1 to .NET Core 6.0

- Developed enterprise-level frontend and backend applications
- Implemented Python automation tools for development environment optimization
- Added REST API endpoints for workflow management system handling 65,000+ flows

Senior Software Engineer
2017 – Present

Freelance / Contract   *Remote*

- Developed B2B e-commerce platform with Angular frontend and ABP .NET backend for Altinyildiz Classics and Beymen Business
- Built blockchain analytics web app using NextJS and React Native
- Developed NestJS microservice backend and integrated with jrkripto.com
- Built enterprise Flutter mobile app for customer-welder portal deployed to PlayStore and AppleStore (Magmaweld)
- Implemented Swift iOS features for enterprise iPad application including custom keyboard for product ordering
- Developed NFC payment Android application with Java and bank gateway integration
- Created NestJS backend boilerplate with authentication, Redis cache, Bull queue, JWT, and cron jobs

Instructor
2017 – Present

Betul Cemre YILDIZ Chess and Robotic Organization   *Izmir, Turkey*

- Teaching C# programming and Linux administration to high school students
- Conducting drone certification courses

Education

Ege University
Izmir, Turkey

Master of Science in Computer Engineering; Concentration: Distributed Systems   *2024 – 2026*

Celal Bayar University
Manisa, Turkey

Bachelor of Science in Computer Engineering; GPA: 3.32/4.00   *2020 – 2024*

Ahmet Yassawi University
Turkestan, Kazakhstan

Bachelor of Science in Computer Engineering; GPA: 3.81/4.00   *2019 – 2022*

Dokuz Eylul University
Izmir, Turkey

Associate's Degree in Computer Programming; GPA: 3.40/4.00   *2016 – 2018*

Technical Skills

Languages:
- C#, TypeScript, JavaScript, Python, Java, Rust, Solidity, Swift, Dart, SQL, Bash

Backend:
- .NET Core, ASP.NET, Entity Framework, NestJS, Express, Django, FastAPI, Spring Boot, Axum

Frontend:
- Angular, React, NextJS, Vue.js, Redux, React Query, Tailwind CSS, Material-UI

Mobile:
- Flutter, React Native, Android (Java), iOS (Swift/UIKit)

Blockchain:
- Ethereum, Solidity, Web3.js, Hardhat, Foundry, ZkSync, Arbitrum, Aptos, Sui

Databases:
- PostgreSQL, MySQL, MSSQL, Redis, MongoDB, CouchDB

Cloud/DevOps:
- AWS, Docker, Kubernetes, CI/CD, Linux, Nginx, HAProxy, Git, GitHub Actions

Architecture:
- Microservices, REST API, GraphQL, gRPC, RabbitMQ, Kafka, Event-Driven Design

AI/ML:
- LangChain, Pydantic AI, pgvector, n8n, MCP Protocol, TensorFlow, PyTorch

Tools:
- Agile/Scrum, Jira, Confluence, Selenium, Puppeteer, Postman, VS Code, IntelliJ IDEA

Projects

ChessDuello - Multiplayer Chess Game

2025 | SwiftUI, Supabase, Deno 2, PostgreSQL, WebSocket

- Built iOS/macOS chess application with innovative trivia-based move unlock system
- Implemented real-time multiplayer matches with 3-minute rounds and 24-hour response windows
- Developed comprehensive backend with Edge Functions, service layer pattern, and Row-Level Security

Medivizi - OHS Management Platform

2025 | Rust, Axum, PostgreSQL, HTMX, WebSocket

- Architected multi-tenant SaaS platform for Occupational Health and Safety management
- Built with compile-time SQL verification using SQLx and comprehensive RLS policies
- Integrated real-time features for appointments, training sessions, and safety compliance tracking

Blockchain Web3 Application

2023 | NextJS, NestJS, MySQL, Solidity, Web3.js

- Developed full-stack Web3 application for token transactions and market bot management
- Implemented smart contracts on Ethereum, ZkSync, and Arbitrum networks
- Built real-time market analysis features with automated trading capabilities

Enterprise Workflow Management System

2022 | .NET Core, Angular, PostgreSQL, REST API

- Supported enterprise workflow system processing 65,000+ workflows for multiple companies
- Implemented REST API endpoints for workflow initialization and management
- Organized version control system and implemented new features with bug fixes

Chess Course Management System

2021 | C#, .NET Core, MSSQL, Entity Framework

- Built comprehensive web application for student progress tracking and attendance management
- Implemented chess puzzle homework submission and automated grading system
- Designed database schema for efficient data retrieval and reporting

BASE Programming Language

2021 | Python, Compiler Design | GitHub

- Designed and implemented custom programming language with Python interpreter
- Developed lexer, parser, and interpreter components following compiler design principles