Mustafa Şen

Software Architect · Distributed Systems · Cloud

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Summary

Software architect and senior engineer with 14+ years of experience, mostly on distributed systems. Currently designing a package delivery platform at Arista Networks, built with Go, gRPC and Kubernetes on GCP. Before that, real-time voice switching systems at Aselsan and C++ services at Alteryx. Focused on building systems that recover cleanly from failures and are easy to monitor in production.

Skills

Architecture	System Design, Distributed Systems, Microservices, API Design (gRPC, REST), Fault Tolerance
Programming	Go, C++, C#/.NET, Python, TypeScript (Angular, React), Java
Cloud & Platform	Kubernetes, Docker, Linux, GCP, AWS, Spinnaker, GitLab CI/CD, Jenkins, Artifactory
Data & Messaging	PostgreSQL, SQL Server, SQLite, Kafka, ODBC
Observability & Quality	Prometheus, Grafana, SonarQube, Integration Testing
AI-Assisted Development	Claude Code, Codex
Languages	Turkish (Native), English (Professional)

Experience

Arista Networks *Cloud networking* — *Contract, Remote*

Software Consultant — *Feb. 2023 – Present*

- Lead the design of a source-to-production packaging and delivery platform, guiding backend and frontend engineers and a UX designer.
- Designed the **Go** package management service: **REST** artifact intake and asynchronous installs on remote services and sites over **gRPC**.
- Built resumable installation state, so deployments complete correctly across service restarts and network failures.
- Built **Spinnaker** pipelines that promote tested artifacts to **Kubernetes** clusters on **GCP**, monitored with **Prometheus** and **Grafana**.
- Wrote **Python** integration tests that run against real network devices.
- Onboarded and mentored new hires and interns on the codebase and internal frameworks.

Alteryx (via Toptal) *Analytics software* — *Freelance, Remote*

Senior Software Engineer — *Feb. 2021 – Oct. 2022*

- Developed core components of a **C++** secret management service backed by **SQLite**.
- Built an **ODBC**-based data connectivity layer in C++ that lets the product connect to multiple database engines.
- Set up **GitLab CI/CD** for the C++ projects with **CMake** builds and **SonarQube** quality gates.

Dünya Varlık *Asset management* — *İstanbul, Türkiye*

Senior Software Engineer — *Mar. 2019 – Feb. 2021*

- Helped define the architecture for splitting a monolithic application into independently deployable services.
- Migrated the business portal from **AngularJS** to **Angular 9** and **.NET Core**, making it simpler, faster and cheaper to maintain.
- Built a document management system with **.NET MVC** and AngularJS, and migrated documents off shared folders into it.
- Refactored and maintained a legacy **C#** and **T-SQL** codebase.

Aselsan *Defense electronics* — *Ankara, Türkiye*

Senior Software Engineer — *Sep. 2017 – Jan. 2019*

- Designed and built professional mobile radio (PMR) switching components for voice, resource management and scheduling in **C++**/**C#**.
- Wrote a C++ data sync framework with a custom protocol for state replication and conflict resolution over unreliable, low-bandwidth links.
- Integrated PMR systems with **SIP** services such as VoIP gateways and PC clients.
- Wrote a C# voice transcoding library for G.711, G.729, IMBE, AMBE+2 and ACELP.

Software Engineer — *Sep. 2012 – Jul. 2017*

- Co-developed distributed packet switching systems in **C#**/.NET for PMR standards (APCO25, TETRA, DMR).
- Built an **Npcap**-based packet rescheduler that buffers voice packets and re-sends them at a steady rate to reduce jitter.
- Built an **SNMP** alarm monitoring application for hardware and software alarms, backed by SQL Server.

Intertech *DenizBank's IT subsidiary* — *İstanbul, Türkiye*

Software Engineer — *Aug. 2011 – Aug. 2012*

- Developed mobile banking apps, including a mobile payment app, for Android, iOS and Windows Phone.

Education & Certifications

2012 **B.S. in Electrical and Electronics Engineering,** Boğaziçi University — *İstanbul, Türkiye*

2022 **AWS Certified Solutions Architect – Associate,** Amazon Web Services (AWS)