Mustafa ÇAKIRCA

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Summary

Recent Software Engineering graduate focused on backend development, microservices, and distributed systems using Java and Spring Boot. Through internship and project work, I have gained end-to-end experience in authentication, asynchronous messaging, data management, container technologies, and Kubernetes deployments. I aim to deepen my expertise in backend engineering and system design while building reliable and scalable services.

Education

Manisa Celal Bayar University — Manisa, Turkey
B.S. in Software Engineering (GPA: 3.47/4.00) — *August 2022 – June 2026*

Experience

Software Engineering Intern — February 2026 – June 2026
TRT General Directorate — *Ankara, Turkey*

- Developed a banking automation platform using Spring Boot and Next.js, contributing to the design and development of backend capabilities in both monolithic and microservices architectures.
- Built centralized authentication and role-based authorization infrastructure using Keycloak, OAuth2/OIDC, and an API Gateway.
- Decoupled notification processing from core banking flows using RabbitMQ; configured centralized logging, metrics, and alert monitoring with the ELK Stack, Prometheus, Grafana, and Alertmanager.
- Ran application services and supporting infrastructure with Docker Compose; contributed to Kubernetes deployment on K3s, including NGINX Ingress/TLS and Longhorn persistent storage configurations.

Software Engineering Intern — July 2025 – September 2025
Manisa Celal Bayar University, Hasan Ferdi Turgutlu Faculty of Technology — *Turgutlu, Turkey*

- Conducted research on Quantum Machine Learning (QML) circuits to improve existing machine learning algorithms and developed prototype applications.
- Performed experimental studies on integrating quantum circuits into ML models to improve inference-time performance.
- Contributed to academic research activities and conducted related literature reviews.

Projects

Bank-Demo: Banking Automation Platform | *Java, Spring Boot, Next.js, Docker, Kubernetes*

- Developed an end-to-end banking platform covering account management, money transfers, currency conversion, bill payment instructions, corporate employee management, and bulk salary payments.
- Decomposed account and transaction management, customer and access management, corporate banking, bill payments, currency operations, and notification domains into independent services; used an API Gateway, Eureka, OpenFeign, and dedicated PostgreSQL databases for data-owning services.
- Ran application services, PostgreSQL, Keycloak, Redis, RabbitMQ, NGINX, the ELK Stack, and monitoring components with Docker Compose; deployed the same architecture to K3s using Kubernetes manifests.
- Implemented Redis caching, IP-based rate limiting for the registration endpoint, administrative approval for high-value transactions, and double-payment protection for bill payments.
- V1 Monolith UI | V1 Monolith API | V2 Microservices | V3 Kubernetes

Aydem Smart Route – EV Optimization System | *Node.js, Express.js*

- Developed a multi-criteria decision-support algorithm for electric vehicles that considers range, charging duration, and station pricing to identify efficient routes.
- Designed a backend architecture using geospatial filtering and scoring to identify suitable charging stations, prevent reservation conflicts, and handle high request volumes.
- Source Code (GitHub)

Technical Skills

Backend: Java, Spring Boot, Spring Cloud (Gateway, OpenFeign, Eureka), Spring Security, JPA/Hibernate, Node.js, Express.js
Frontend: Next.js, React, TypeScript, Tailwind CSS
Data & Messaging: PostgreSQL, Redis, RabbitMQ, Elasticsearch
Infrastructure & Security: Docker, Docker Compose, Kubernetes (K3s/Longhorn), NGINX, Linux, Keycloak (OAuth2/OIDC)
Observability & Architecture: ELK Stack, Prometheus, Grafana, Alertmanager; Microservices, Event-Driven Architecture, Database-per-Service

Certificates

English Course Certificates: Completed B1, B2, and C1 English-language courses offered by BTK Academy.
Software Engineering Intern Certificate: HackerRank – completed a technical assessment covering algorithms, SQL, and core software engineering principles.
Frontend Developer (React) Certificate: HackerRank – completed a technical assessment validating React.js and modern frontend development skills.

Languages

Turkish: Native
English: B1 (Intermediate)