

Merim Kulovac

Software Engineer | Electrical Engineer

Sarajevo, Bosnia and Herzegovina

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PROFESSIONAL SUMMARY

Software Engineer with 3+ years of experience designing, building and supporting enterprise telecom software at Zira Group (Unitic), promoted twice from Software Developer to Software Engineer 2. Strong background in Java Spring Boot, Angular, microservices, event-driven architecture (Apache Kafka, ActiveMQ), Camunda BPM and Oracle PL/SQL. Experienced in High-Level and Low-Level Design, system optimization, technical standards, and mentoring junior engineers. Outside work, builds personal projects end to end: a deployed full-stack gym management platform (Spring Boot, React Native), a serverless shooting range app (React Native, Firebase) and a concurrent online charging engine in Java 25. Additional embedded systems experience.

CORE SKILLS

Languages & Frameworks: Java, Spring Boot, Spring Security, JPA/Hibernate, Angular, React, Next.js, TypeScript, .NET Core, C++, PL/SQL

Architecture & Integration: Microservices, Event-Driven Architecture, Java Concurrency (virtual threads, locks, lock-free structures), High-Level Design (HLD), Low-Level Design (LLD), REST / Headless APIs, Apache Kafka, ActiveMQ, Camunda BPM

Databases: Oracle (complex query optimization on tables with millions of records), PostgreSQL, PL/SQL procedures, functions and packages, Flyway

Reporting: JasperReports (automated report generation, complex SQL)

Mobile & Web: React Native (Expo), Firebase, Flutter, WordPress, professional websites and portfolio applications

Embedded Systems: ARM Mbed, C++, GPIO, UART, I2C, SPI, microcontrollers, sensors, real-time applications, hardware/software debugging

DevOps & Testing: Docker, nginx, Cloudflare, JUnit, Mockito, Testcontainers, Jest, React Native Testing Library, Maestro (E2E), GitHub Actions

PROFESSIONAL EXPERIENCE

Software Engineer 2

June 2026 – Present

Zira Group (Unitic), Sarajevo, Bosnia and Herzegovina

- Develop High-Level Designs (HLD) defining architecture, key components and system integrations.
- Analyze and optimize existing systems to improve performance, scalability, reliability and maintainability.
- Design and implement microservices solutions using Apache Kafka, Camunda BPM and external system integrations.
- Implement data processing, exchange and synchronization mechanisms ensuring integrity, consistency and reliability.
- Define technical standards and select technologies to meet functional and non-functional requirements.

Software Engineer 1

January 2025 – May 2026

Zira Group (Unitic), Sarajevo, Bosnia and Herzegovina

- Developed software solutions and provided support for the Trading and Routing Management (TRM) product for STC Telekom using Angular, Java Spring Boot, Kafka, ActiveMQ, JasperReports, Oracle database and PL/SQL.
- Contributed to the creation of High-Level Designs and authored Low-Level Designs.
- Mentored and trained junior colleagues on the TRM product.

Software Developer

September 2023 – December 2024

Zira Group (Unitic), Sarajevo, Bosnia and Herzegovina

- Developed software solutions and provided support for the Trading and Routing Management (TRM) product for STC Telekom using Angular and Java Spring Boot.

Software Developer Intern

June 2023 – August 2023

Zira Group (Unitic), Sarajevo, Bosnia and Herzegovina

- Completed a software development internship (volunteer position).

PROJECTS

Gym Management System

Personal project

Full-stack application with four user roles (admin, front desk, trainer, member) | <https://teretana.razvoj.online/>

- Backend: Java 25, Spring Boot 4, Spring Security (JWT, two-factor authentication, rate limiting), JPA/Hibernate, PostgreSQL, Flyway.
- Mobile application: React Native (Expo), TypeScript, TanStack Query; iOS and Android; Bosnian and English.
- Quality: 1,300+ backend tests (JUnit, Mockito, Testcontainers); 300+ mobile unit and component tests (Jest, React Native Testing Library) with a 95% coverage gate in CI; Maestro end-to-end tests of the main flows for all four roles, run against a local backend with automatic test-data seeding and restore.
- Infrastructure: Docker, nginx and Cloudflare on a self-hosted server with automated backups.

Shooting Range Management App

Personal project

Mobile admin app for a shooting range | React Native (Expo), TypeScript, Firebase; iOS and Android

- Inventory ledger, visit check-in, memberships, promo codes, instructor ratings, e-signatures, PDF/Excel reports.
- Serverless on the Firebase free tier: business rules enforced in atomic transactions and again in Firestore Security Rules; AES-256-GCM encryption of personal data, biometric lock and full audit log.
- Quality: 780+ automated tests incl. Firestore Security Rules; 95% coverage gate in CI; 20 Maestro E2E flows.

Telco Charging Engine – Online Charging System (OCS)

Personal project

Concurrent Java service for the telecom domain | Java 25, Spring Boot 4, Docker

- Built a service covering prepaid accounts, Me2U credit transfer, tariff rating, online charging modelled on Diameter Gy (reserve, extend, commit, release, expiry), CDR mediation, SMS campaigns and fraud detection.
- Applied advanced concurrency: per-account locking with ordered acquisition (no deadlocks), compare-and-set for exactly-once session settlement, a bounded producer-consumer CDR pipeline with back-pressure and graceful shutdown, lock-free fraud counters, and virtual threads for SMS sending.
- Parallelised re-rating of up to 10 million CDRs across CPU cores, verified to match the sequential result exactly.
- Quality: 155 automated tests, including concurrent stress tests of invariants (money conservation, no deadlock, exactly-once processing); 95% coverage enforced by the build; documented design decisions; Dockerised.

DigiPay – Digital Banking Application

January 2023 – April 2023

- Full-stack digital banking app (.NET Core, React): multi-currency accounts, secure transactions and history.

EDUCATION

BSc in Computer Science and Informatics

2019 – 2023

Faculty of Electrical Engineering, University of Sarajevo

Computer Science and Informatics

2014 – 2018

Electrical Engineering High School Sarajevo

ADDITIONAL TRAINING

Microsoft Azure Fundamentals

2022

Logosoft

LANGUAGES

English: C1 – Advanced (Proficient User)

Bosnian: Native