

OBAID UR REHMAN

Full Stack Software Engineer

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SUMMARY

Full stack software engineer with nine years across backend, web, and embedded systems, now building aircraft noise and flight track monitoring software for airports worldwide. Strongest in C#/.NET and Java backends, distributed systems, and performance and cost optimization, with shipped results including a 7.5x faster search path and an 85% cut in infrastructure spend. M.Sc. Data Science, RWTH Aachen. Authorized to work in the EU. English C1, German B1, Urdu native.

TECHNICAL SKILLS

Languages: C#, Java, C, C++, SQL, JavaScript, TypeScript, HTML, CSS

Backend and Web: .NET (ASP.NET Core, WPF, .NET Core), Spring, Quarkus, Microsoft Orleans, Vue.js, REST, GraphQL, microservices

Data and Messaging: PostgreSQL, MySQL, MSSQL, Redis, Elasticsearch, Apache Kafka

DevOps: Docker, Kubernetes, GitLab CI, GitHub Actions, Git, Linux, CI/CD automation, high availability deployments

Embedded: C firmware, OTA updates, BLE, ESP-IDF, PlatformIO, ROS 2, J1939, J1587, J1979

Practices: Code review, software architecture, unit and integration testing, performance profiling

EXPERIENCE

Topsonic Systemhaus GmbH

Full Stack Software Developer

Jan 2025 - Present

Würselen, Germany

Aircraft noise and flight track monitoring systems for airports worldwide

- Build and extend C#/.NET desktop applications and Vue.js web applications for aircraft noise and flight track monitoring deployed at airports internationally
- Automated release and deployment pipelines and designed the high availability environment for production monitoring services
- Profiled and optimized application performance, and designed REST APIs and database models for flight and measurement data
- Review teammates' code and contribute to software architecture decisions

Better Mobility GmbH

Backend Developer

Jan 2022 - Dec 2024

Aachen, Germany

Multimodal mobility app serving over 500,000 users across five cities

- Built Java microservices in Quarkus and Spring for a multimodal mobility platform serving over 500,000 users across five cities
- Cut map tile spend from 2,000 USD to 300 USD per month, an 85% reduction, by introducing disk-based tile caching
- Reduced place search query time from 300 ms to 40 ms, a 7.5x speedup, by adding Redis caching
- Improved POI search recall for partial and misspelled place names by tuning fuzzy matching in Elasticsearch
- Integrated five mobility providers, three on GBFS and two on manufacturer-specific APIs, and built a GraphQL filter service
- Optimized navigation routing with GraphHopper, ran code reviews, and wrote unit and integration tests

Synodic Inc

IoT Engineer

Jan 2017 - Dec 2021

Remote

Electronic logging devices for commercial fleets in the US and Canada

- Wrote C firmware for electronic logging devices, parsing J1587, J1939, and J1979 vehicle bus data from truck ECUs
- Scaled over-the-air firmware deployment to more than 7,000 devices in the field across the US and Canada
- Built a J1939, J1979, and J1587 protocol simulator for automated ELD testing without physical vehicles, an Android app for event synchronization, and a Java server for DOT and CCMTA compliance reporting

e.GO MOOVE GmbH

Working Student, Software Development

Mar 2021 - Sep 2021

Aachen, Germany

- Developed ROS 2 software for autonomous electric shuttles, integrated LiDAR and GPS sensors, and improved point cloud processing and object detection

EDUCATION

M.Sc. Data Science

RWTH Aachen University

2021 - 2024

Aachen, Germany

B.Sc. Software Engineering

COMSATS University Islamabad

2013 - 2018

Islamabad, Pakistan