

Abhishek Shah

Distributed Systems | Cloud-Native Microservices at Scale

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Summary

Software Architect and founding engineer with nearly 15 years of experience designing and scaling cloud-native, highly available distributed systems in the EV charging and POS domains. Proven track record of architecting high-throughput, low-latency platforms supporting 100K+ connected devices and vehicles using industry standard protocols such as OCPP, OCPI and ISO 15118.

Expert in microservices architecture, domain-driven design, and event-driven systems, with deep hands-on proficiency in Java, Spring Boot, Kafka, Kubernetes, and AWS. Strong focus on performance engineering, system resilience, and DevSecOps practices, including automated quality gates, security scanning, and production observability.

Recognized for leading platform modernization initiatives, mentoring engineering teams, and driving technical strategy while remaining deeply involved in implementation, incident resolution, and continuous optimization of large-scale systems.

Technical Skills

Backend & Architecture: Java (JDK 8–21), Spring Boot 3.x, Spring Framework 6.x, Microservices Architecture, Domain-Driven Design (DDD), Enterprise Integration Patterns, System Design, Python, RESTful APIs, Maven.

EV Charging & Protocols: OCPP 1.6/2.0.1, OCPI 2.1.1/2.2.1, ISO 15118 (Plug & Charge), WebSockets, TCP, HTTPS.

Cloud & DevOps: AWS (EC2, EKS, Lambda, S3, API Gateway, ALB/ELB, ECR, ACM, WAF), Kubernetes, Docker, Helm, Istio, Argo CD, Jenkins, TeamCity, CI/CD Pipelines.

Messaging & Persistence: Kafka, AWS EventBridge, SQS/SNS, Redis, JMS, ActiveMQ, RabbitMQ, MySQL, PostgreSQL, Aurora, DynamoDB, RDS, Elasticsearch, Hibernate/JPA.

Observability & Security: Dynatrace, Datadog, SonarQube, Apiiro, OAuth2, OpenID, SAML.

Frontend & Legacy: Micro-Frontend Architecture, PrimeFaces, Servlet, JSP, JSF.

Experience

Shell Recharge Solutions – Platform Architect 04/2017 – Present / Los Angeles, California

Hands-on software architect and founding engineer leading the design and evolution of large-scale distributed systems, EV charging protocols, platform modernization, and operational excellence in a high-growth environment.

- **Architected and led development of a horizontally scalable core platform** supporting **100K+ concurrent charging stations over persistent WebSocket connections** using **OCPP 1.6 and 2.0.1**, enabling reliable, real-time device communication at scale.
- **Designed and delivered ISO 15118 (Plug & Charge) capabilities**, enabling secure, certificate-based vehicle authentication and automated charging aligned with Plug & Charge standards.
- **Led domain-driven decomposition of a legacy monolith** into independently deployable microservices aligned to clearly defined bounded contexts including **Pricing, Payments, Charging, Security, Charging Stations, Analytics, Demand Response, OCPI, Users, and Subscriptions**, improving scalability, team autonomy, and deployment velocity.

- **Drove database and API performance engineering initiatives** by implementing slow-query monitoring with AWS observability tooling and Dynatrace APM; optimized queries through indexing and refactoring to maintain **API latency under 500 ms** while reducing the need for database scaling and lowering cloud infrastructure costs.
- **Modernized the deployment platform** by leading migration from legacy JAR/WAR releases to **containerized Kubernetes workloads packaged with Helm**; developed reusable, dynamic Helm charts adopted organization-wide, simplifying CI/CD pipelines and standardizing configuration management and improving deployment reliability across environments.
- **Led production incident response**, collaborating with SRE teams to perform root cause analysis and drive remediation through to production fixes, leveraging deep system knowledge as a founding engineer.
- **Institutionalized automated quality and security governance** by embedding **SonarQube** (enforcing 80% minimum test coverage, sustained “A” quality ratings) and **Apipro** dependency vulnerability scanning into commit validation, pull request reviews, and CI/CD pipelines.
- **Remained deeply hands-on**, contributing to production code, complex debugging, architectural refactoring, and performance optimization across services.

Samin Tekmindz - Software Engineer → Technical Lead 07/2011 – 04/2017 | Noida, UP, India

- **Promoted from Intern to Technical Lead** within six years, managing the end-to-end delivery of features for high-traffic Point of Sale (POS) and early-stage EV charging platforms.
- **Designed and implemented secure RESTful APIs** for mobile integrations, utilizing OAuth and data encryption standards to protect sensitive user information.
- **Improved development efficiency** by standardizing code review processes and mentoring junior engineers on Java best practices and domain-driven design.
- **Led a cross-functional team** to deliver full-stack features, bridging the gap between complex backend services and user-facing applications.
- Gained early domain experience in EV systems, forming the foundation for later large-scale charging and protocol architecture work.

Education

Bachelor of Technology in Computer Science and Engineering from *Uttar Pradesh Technical University* | 2007–2011