

Abhiroop Basu

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Summary

Veteran Systems Engineer with around a decade of experience building and scaling cloud-native products using Java, Kotlin, Spring Boot, AWS, Kafka, Docker, and Kubernetes. Co-founded and scaled a zero-to-one SaaS product combining product discovery, technical strategy, delivery planning, stakeholder collaboration and operational ownership. Experience in guiding engineers, driving cross-functional decisions, improving engineering processes and building reliable, observable distributed systems. Strong track record of translating business requirements into scalable solutions and measurable operational improvements.

Technical Tooling

- **Languages**
Java, Kotlin, Javascript, Python, Bash
- **Frameworks & Infrastructure**
Java EE, Spring Framework, Spring Boot, Quarkus, WebSphere, Hibernate, Kafka, Relational Databases, Non-Relational Databases, Timeseries Databases (Clickhouse), Kubernetes, Docker, AWS, Terraform, Distributed Systems, Helm, ArgoCD, Gltea, OpenShift, Cloud Infrastructure Engineering.
- **Blockchain & Distributed Systems Expertise**
Bitcoin ecosystem concepts, transaction lifecycle pipelines, event-stream processing, secure key handling patterns, deterministic processing, financial reconciliation systems, fault-tolerant messaging architectures, high-throughput ingestion pipelines.
- **Engineering & Tooling**
GitLab CI/CD, Jenkins, Maven, Gradle, JUnit, Robot Framework, Prometheus, Grafana, Datadog, Keycloak, OIDC, SSO.
- **Core Competencies**
Distributed Systems • Backend Architecture • Event-Driven Design • API Engineering • Observability • Secure Systems • Performance Optimization • Reliability Engineering • Cloud-Native Systems • Automation • Agile Delivery

Work Experience

Software Engineer III | Foundry Digital
Berlin, Germany (Remote)

July 2024 - August 2025

- Designed and implemented high-performance Kotlin/Spring Boot backend services supporting financial and blockchain-adjacent infrastructure, implementing secure credential retrieval via AWS Secrets Manager and reducing external dependency latency through intelligent caching strategies.
- Refactored high-throughput Kafka consumer pipelines handling financial event streams; introduced semaphore-based backpressure, batch database upserts, and Testcontainers integration tests to ensure deterministic processing and safe system evolution under load.
- Automated reconciliation workflows for ledger-style financial records using scheduled jobs, transactional boundaries, JPA/Hibernate, and MySQL, ensuring consistency, auditability, and integrity across distributed systems while saving 16+ hours/week in manual operational effort.
- Architected and containerized an end-to-end payments testing framework validating service interactions across distributed transaction flows, integrating coverage reporting into GitLab CI pipelines and raising quality standards.
- Implemented full-stack observability across services using Datadog APM, correlating logs, traces, and metrics to monitor system health, detect anomalies, and ensure reliability of critical financial infrastructure services.

Senior Software Engineer | SHS Viveon AG**Sep 2023 – Dec 2023****Berlin, Germany**

- Implemented Keycloak-based Single Sign-On using OIDC and ID Tokens, configuring realms, redirect URIs, scopes, claim mappers, and Spring JWT validation; enforced back-channel token exchange to eliminate front-channel token exposure and strengthen security posture.
- Resolved high-severity CVE vulnerabilities by upgrading Gradle dependencies, replacing insecure transitive libraries, and integrating Snyk-driven security gates into CI pipelines for automated vulnerability detection and prevention.
- Optimized database performance across the Hibernate layer by eliminating N+1 queries, adding composite indexes, and enabling batch writes, reducing query latency and improving overall throughput.
- Engineered MR-triggered GitLab CI pipelines with semantic versioning, Docker image builds, Helm chart updates, readiness probes, and automated rollback mechanisms, enabling safer, hands-off deployments and minimizing production risk.

Senior Engineer (Payments) | Deutsche Bank**January 2023 - June 2023****Berlin, Germany**

- Engineered type-safe Kotlin DSLs to model complex payment orchestration and compliance rules, compiling DSL definitions into executable Spring components, eliminating scattered boilerplate, increasing system correctness, and hardening rule governance.
- Designed regulatory payment flows across Kotlin/Spring Boot microservices, implementing idempotency, deterministic retries, correlation IDs, and full audit trails, reducing failure scenarios and improving traceability across distributed payment pipelines.
- Improved data integrity for compliance and reporting by conducting deep root-cause analysis on redundant datasets and optimizing high-volume SQL queries on ClickHouse, strengthening accuracy and performance for analytics consumers.
- Collaborated with globally distributed engineering, compliance, and business teams to clarify real-time operational constraints, drive architectural trade-off discussions, and reduce rework through aligned, upfront technical decision-making.

Senior Java Engineer (Trade Finance) | Modifi**May 2022 - September 2022****Berlin, Germany**

- Designed and implemented a production-grade Invoice Management microservice using Java, Spring Boot, PostgreSQL, and JPA/Hibernate, implementing idempotency keys and strict transactional boundaries to improve payment and invoice reliability and achieve fault-tolerant processing.
- Refactored the shipment-tracking service with a modular architecture, structured logging, and resilient retry logic for external Seagate API integrations, reducing downtime and improving system stability under failure scenarios.
- Accelerated development and deployment speed by optimizing GitLab CI/CD pipelines, automating quality gates, and integrating environment-specific workflows; enhanced operational transparency by creating Grafana dashboards for real-time monitoring.
- Elevated code quality and engineering consistency by documenting best practices, improving team onboarding, and contributing to shared architecture and coding standards.
- Mentored colleagues and peers to maintain high standards of delivery.

Senior Consultant (Aviation) | Infogain / Solunus**September 2020 - February 2022**

- Modernized core airline seat-management microservices, enabling seamless partner integrations and improving system scalability and real-time seat availability across global booking channels.
- Upgraded legacy services to Java 11, optimized Docker images by migrating to Alpine Linux, and right-sized containers, reducing infrastructure costs and mitigating security vulnerabilities.
- Implemented a custom distributed logging and tracing framework using Logback, significantly improving observability and cutting incident resolution time.
- Automated CI workflows by developing Jenkins pipelines with quality gates, test stages, and environment-specific build steps, boosting deployment reliability and engineering efficiency.

Senior Developer (Security Systems) | ICREST**December 2019 - August 2020**

- Re-engineered the high-volume data ingestion pipeline, adding operational tuning controls to dynamically adjust ingestion rates based on data density, improving processing throughput by 80% and increasing system stability.
- Migrated features from the legacy Java EE application to Spring Boot.
- Built an automated QA and regression testing framework, significantly improving release reliability, shortening iteration cycles, and reducing manual validation effort.
- Led backend scalability enhancements for secure identification and verification systems, reducing operational workload and strengthening system performance for future growth.

Sr. Project Engineer | Wipro Ltd**May 2019 – Sep 2019**

- Designed Java 8 & Spring Boot microservices to process device data for smart systems.
- Partnered with business teams to extend mobile computing capabilities, enabling new client use cases in a distributed Microservices environment.

Co-Founder | YoTech Softwares Pvt. Ltd**Jan 2017 – Apr 2019**

- Scaled a home grown SaaS solutions for order, inventory management & Salesforce tracking.
- Lead the system design and architected data pipelines which supported large-scale FMCG clients.
- Built real time observability and monitoring tools for clients which greatly shortened the feedback loop.
- Led technical initiatives and influenced engineering decisions across peers.
- Coordinated engineering, business, compliance, operations and stakeholders.
- Owned delivery and production outcomes, post implementation.

Software Engineer | Manhattan Associates (Warehouse & Inventory Systems)**Aug 2014 – Dec 2016**

- Redesigned Need Analysis Tool, improving process efficiency by 45% using Java 7.
- Orchestrated and debugged issues with legacy Java deployments in WebSphere (IBM WebServer).
- Designed a Groovy-based test framework for QA teams, simplifying test creation and execution.
- Delivered new features using Java ahead of customer go-lives, ensuring client satisfaction.

Recent Open Source contributions:

1. Built an OSS Maven plugin that discovers subclasses across consumer projects helping to generate reflection metadata for native images.
2. Built Nano Developer Console, a lightweight open-source developer console for Java/Nano applications, improving runtime visibility for local and platform services. This uses the above maven plugin in point 1.
3. Designed Runway, a native-friendly Java migration toolkit that generates a migration catalog at build time and applies SQL resources at runtime avoiding heavy reflection usage. Runway Codegen also creates migration history impact reports to help teams understand, audit, and consolidate large SQL migration histories (Java).
4. Built Asgard, a self-hosted proxy for Raspberry Pi that gives real-time visibility into network traffic, classifying outbound requests (normal, tracking, suspicious, exfiltration risk) via a live dashboard in pure Java.

Education**Bachelor of Engineering (Computer Engineering) - PES Institute of Technology, Bangalore****Languages**

- **English** Professional Proficiency
- **German** Intermediate Proficiency (B1)