

# VAMSI KRISHNA BHAGAVATHULA

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Senior Software Engineer | Java 17 | Spring Boot | Kafka | AWS | React/Angular | Distributed Systems

## SUMMARY

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Senior Software Engineer with 6+ years of experience building cloud-native, event-driven enterprise applications across telecom, banking, e-commerce, and IoT domains. Strong hands-on experience with Java 17, Spring Boot, Kafka, WebFlux, AWS, React, Angular, and microservices architecture. Experienced in legacy modernization, secure REST API design, database performance optimization, real-time UI development, CI/CD automation, observability, and production support for distributed systems.

## PROFESSIONAL EXPERIENCE

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### Senior Software Engineer — Verizon

*TX, USA | Feb 2025 - Present*

- Modernized legacy telecom workflows into cloud-native, event-driven microservices using Java 17, Spring Boot, WebFlux, Kafka, and AWS, improving scalability, fault isolation, and deployment flexibility.
- Designed and delivered 30+ REST APIs across distributed services, reducing duplicate backend logic by 40% through reusable service-layer patterns and standardized API structures.
- Implemented asynchronous messaging workflows using Kafka, RabbitMQ, and IBM MQ to support reliable communication between modern microservices and legacy enterprise systems during the TracFone integration.
- Built real-time internal UI modules using React.js, Redux Toolkit, and TypeScript, reducing UI latency by approximately 40% through state optimization, API response handling, and rendering improvements.
- Optimized PostgreSQL and MySQL queries, indexing strategies, and data-access patterns, improving reporting and retrieval performance by 30%.
- Improved backend security and observability by implementing JWT authentication, RBAC, centralized ELK logging, structured error handling, and traceable service-level logging.
- Supported production releases through deployment validation, log analysis, defect triage, root-cause investigation, and performance tuning across distributed Java/Spring Boot microservices.

### Software Engineer — U.S. Bank

*NJ, USA | May 2023 – Feb 2025*

- Built and supported enterprise workforce management applications using Java, Spring Boot, Spring Security, REST APIs, and microservices architecture across the full software development lifecycle.
- Developed secure backend services using JWT authentication, role-based authorization, and Spring Security, improving access-control consistency and supporting internal compliance requirements.
- Built operational dashboards and admin interfaces using Angular 12–16, React.js, Highcharts, and Chart.js, enabling real-time reporting, data visualization, and administrative decision support.
- Designed and optimized PostgreSQL/MySQL schemas, SQL/PL-SQL queries, indexes, and data-access patterns to improve reporting performance and data accuracy.
- Deployed and maintained containerized microservices on AWS using Docker, Kubernetes, Jenkins, EC2, ECS, RDS, S3, Lambda, and API Gateway, improving deployment reliability and release turnaround.
- Improved application quality and release confidence by writing unit, integration, and API tests using JUnit, Mockito, REST Assured, and Jasmine.
- Supported CI/CD pipelines and release processes through build automation, deployment validation, environment configuration, and production issue analysis.

### Graduate Research & Teaching Assistant — Columbus

*Columbus, GA | Jan 2022 – Dec 2022*

#### State University

- Designed and implemented energy-efficient, hardware-secured communication protocols for IoT devices, focusing on mutual authentication, trusted device identity, and edge security.
- Architected a hardware-secured mutual authentication protocol using Zymkey, enabling trusted identity verification across distributed IoT and edge-computing environments.
- Presented research at an ACM conference, contributing to applied security research in IoT authentication and secure device communication.

- Assisted instruction for Python, Java, SQL, and Database Design, supporting students through labs, assignments, debugging help, and technical mentoring.

## Software Developer — Silicon Matrix

Hyderabad, India | Jun 2019 – Aug 2021

- Developed and enhanced customer-facing e-commerce features using React, Redux, JavaScript, HTML5, and CSS3, improving usability and consistency across shopping, product, and account workflows.
- Built reusable React components with Hooks, shared UI patterns, and modular frontend structures to improve maintainability and reduce repeated implementation across pages.
- Implemented and consumed REST APIs using Java, Spring Boot, and JWT authentication, supporting secure CRUD operations, user workflows, and backend service integrations.
- Identified and resolved SQL performance bottlenecks in frequently used application flows, improving API response times and backend reliability.
- Contributed to modernization of legacy Spring MVC applications toward Spring Boot services and cloud-ready deployment patterns.

## TECHNICAL SKILLS

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**Languages:** Java 11/17, TypeScript, JavaScript, SQL, Python

**Backend:** Spring Boot, Spring Security, Microservices, WebFlux, REST APIs, Hibernate, JPA, Distributed Systems

**Frontend:** React.js, Angular 12–16, Redux Toolkit, HTML5, CSS3, Highcharts, Chart.js

**Cloud & DevOps:** AWS, EC2, ECS, ECR, S3, RDS, Lambda, API Gateway, IAM, Docker, Kubernetes, Jenkins, CI/CD

**Messaging:** Apache Kafka, RabbitMQ, IBM MQ, WebSockets, Event-Driven Architecture

**Databases:** PostgreSQL, MySQL, MongoDB, Redis, DynamoDB, Database Design

**Testing:** JUnit, Mockito, REST Assured, Jasmine, TDD

**Tools:** Git, Maven, Gradle, JIRA, Confluence, Swagger/OpenAPI, ELK Stack

## EDUCATION

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- M.S. in Applied Computer Science  
Columbus State University, Georgia
- B.Tech in Computer Science  
Malla Reddy College of Engineering and Technology, India

## Certifications & Achievements

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- AWS Certified Solutions Architect – Associate
- Academic Excellence Award — Columbus State University
- Selected as Graduate Research & Teaching Assistant based on academic performance and technical expertise

## Publications & Research

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- [Towards Energy-Efficient Edge Computing for Tiny AI Applications](#) — researched edge-optimized AI inference workflows for efficient deployment, orchestration, and secure communication in distributed AI-enabled systems.
- Mutual Authentication Protocol between IoT Devices and Hardware Security using ZYMKEY — presented research on hardware-secured mutual authentication for trusted device identity across distributed IoT and edge-computing systems.