RAHUL PODUGU

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PROFESSIONAL SUMMARY

Software Engineer with over 2 years of experience in Java development, Spring Boot microservices, and cloud-native applications on AWS. Skilled in designing scalable payment systems, implementing AI/ML solutions, and optimizing application performance. Experienced in Agile methodologies, CI/CD pipelines, and containerization with Docker and Kubernetes. Passionate about leveraging AI, microservices architecture, and cloud technologies to build robust enterprise solutions.

TECHNICAL SKILLS

- **Programming Languages:** Java, Python, JavaScript, TypeScript, C++, C#, Kotlin
- **Frameworks & Libraries:** Spring Boot, Spring Framework, Node.js, Express, Angular, React, REST APIs, GraphQL, gRPC, FastAPI
- **Cloud & DevOps:** AWS (EC2, Lambda, S3, CloudWatch), Azure, Docker, Kubernetes, Jenkins, Git, CI/CD, Terraform, Helm
- **Data & AI:** PostgreSQL, MongoDB, Redis, Apache Kafka, TensorFlow, scikit-learn, FAISS, Pinecone, LangChain, OpenAI API
- **Testing & Agile:** Selenium, JUnit, Mockito, Jest, Postman, TDD/BDD, Scrum, Kanban, Jira

PROFESSIONAL EXPERIENCE

Software Developer May 2024 – Present
Aztra Baltimore, MD

- Architected and implemented Java Spring Boot microservices for payment processing on AWS, handling 100K+ daily transactions with 99.9% uptime
- Integrated Apache Kafka for event-driven architecture, implementing Saga pattern for distributed transactions, reducing latency by 40%
- Developed AI-powered customer support system using LangChain with GPT-4 and Claude, automating 30% of payment queries with RAG flows
- Built vector search system with FAISS to index payment documentation and logs, improving chatbot response accuracy by 25%
- Optimized database performance through SQL query tuning and Redis caching implementation, reducing API response time by 30%
- Conducted JMeter load testing and implemented AWS auto-scaling with load balancing, achieving 99th percentile latency under 150ms for 50K+ users
- Led 7-member Scrum team through 2-week sprints, implementing CI/CD pipelines with GitHub Actions and Jenkins for automated testing and deployment
- Containerized microservices with Docker and Kubernetes, integrating AWS monitoring with Prometheus and CloudWatch for 40% faster incident recovery

Software Developer (Research Assistant) Sept 2022 – Nov 2023
University of Maryland, Baltimore County (UMBC) Baltimore, MD

- Developed real-time research dashboard using Angular with server-side rendering (Angular Universal), reducing initial load time by 40%
- Engineered scalable Node.js backend with Express and GraphQL on Kubernetes, supporting 10K+ concurrent users
- Implemented Redis caching and database optimization strategies, reducing API latency by 35% and improving overall system performance
- Secured sensitive research data with JWT authentication and role-based access control (RBAC), ensuring compliance with university data policies
- Collaborated with research teams to translate complex data visualization requirements into interactive dashboard components

Software Developer Sept 2021 – Jun 2022
UST Bangalore, India

- Designed and implemented payment workflows using Java, Kafka, and Saga orchestration pattern, ensuring ACID com-

pliance for distributed transactions

- Increased transaction reliability by 45% for 10K+ daily transactions through improved error handling and recovery mechanisms
- Optimized Spring Boot microservices with enhanced REST communication and asynchronous messaging, boosting throughput by 30% across 5 services
- Developed robust REST APIs with real-time validation and concurrency controls, improving warehouse inventory accuracy by 25%
- Implemented rollback logic and transaction boundaries for data consistency across distributed systems
- Built comprehensive test suites using Selenium WebDriver, JUnit, and Mockito in a TDD environment, reducing manual QA effort by 75%
- Led Agile ceremonies and Kanban workflows as acting Scrum Lead for a 6-member team, increasing delivery velocity by 25%

Analyst Intern Apr 2021 – Aug 2021
Fidelity National Financial Bangalore, India

- Streamlined ETL pipelines for Oracle-to-Redshift migration, resolving 200+ Java/SQL issues and improving data quality by 50%
- Developed a Java-based automation tool for data extraction and transformation, cutting processing time by 30%
- Optimized Hibernate queries and Java modules, reducing system crashes by 40% through memory leak fixes
- Implemented CI/CD pipelines with Jenkins and Docker on AWS, automating Kubernetes deployments with YAML scripts

PROJECTS

Decentralized File Sharing System
P2P file sharing application with RSA/AES encryption and DHT indexing using Java and Linux io_uring. Implemented multithreaded architecture achieving 3x faster access times compared to traditional file sharing systems.
https://github.com/Rahul2251999/Peer-to-Peer-Secured-File-System

Real-Time Stock Trading Engine
Developed a high-performance matching engine using lock-free concurrency with Compare-And-Swap (CAS) operations in Java. Achieved sub-millisecond latency for processing 1,000+ stock tickers simultaneously. Implemented order book management with price-time priority queue. https://github.com/Rahul2251999/stock-trading-engine

AI Customer Support Chatbot
Built an intelligent customer support system with Azure Bot Services, LUIS, and custom NLP stack. Handles 1,000+ queries daily with 60% improved resolution rate. Implemented intent recognition, entity extraction, and sentiment analysis for personalized responses. https://github.com/Rahul2251999/AI-Powered-Customer-Support-Chatbot

EDUCATION

M.S. in Computer Science Aug 2022 – May 2024
University of Maryland, Baltimore County (UMBC) GPA: 3.8/4.0 Relevant Coursework: Advanced Algorithms, Distributed Systems, Machine Learning, Cloud Computing, Big Data Analytics

PUBLICATIONS

- "Remote Medical Assistance for Marine Fishermen through OceanNet", IEEE ICCCNT 2021, DOI: 10.1109/ICCCNT51525.2021.9579678