Vamsi Makke

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Professional Summary

Results-driven Software Engineer with strong expertise in **Java**, **Python**, and **Cloud Infrastructure (AWS)**. Experienced in architecting scalable **Microservices**, building distributed systems, and optimizing full-stack web applications. Proven track record of delivering real-time data pipelines and reducing system latency by over 20%. Adept at **LeetCode** style problem-solving and implementing CI/CD workflows for high-availability production environments.

Technical Skills

Languages: Java (Core/Advanced), Python, C#, JavaScript/TypeScript, SQL, C++, Bash/Shell
Backend: Spring Boot, Node.js, Express.js, .NET Core, RESTful APIs, Microservices, GraphQL, gRPC
Cloud & DevOps: AWS (EC2, ECS, Lambda, S3, RDS), Docker, Kubernetes, Jenkins, GitHub Actions, Terraform
Databases & Messaging: PostgreSQL, MySQL, MongoDB, Redis, Apache Kafka, RabbitMQ
Web: React.js, HTML5, CSS3, Bootstrap, Redux, Tailwind CSS
Core Concepts: Data Structures & Algorithms, OOPS, System Design, Agile/Scrum, Distributed Systems

Education

University of Cincinnati, Cincinnati, OH — Jan 2024 – May 2025
Master of Science in Information Technology — GPA: 4.0
Vasireddy Venkatadri Institute of Technology, India — Sep 2019 – Apr 2023
Bachelor of Technology in Computer Science and Engineering

Experience

Software Engineer | TORQ Sports, Woodland Hills, CA — Jun 2025 – Present
- Architected scalable backend microservices using **Java Spring Boot** and **AWS ECS**, serving over 15,000 requests/day with 99.9% uptime.
- Engineered distributed data ingestion pipelines processing 2M+ records/day, utilizing **Python** and **Docker** for containerized deployment.
- Collaborated with data science teams to optimize SQL queries and database schemas, reducing system latency by 20%.
- Implemented operational dashboards using **React** and real-time APIs, increasing issue detection speed by 30%.
- Integrated **CI/CD pipelines** using GitHub Actions to automate testing and deployment, reducing manual release efforts by 25%.

Graduate Researcher - Software Engineer | University of Cincinnati — Apr 2024 – Apr 2025
- Developed high-performance ETL scripts in **Python** and **C#** to process large-scale datasets (1M+ records) for research analytics.
- Designed RESTful APIs to expose processed data to frontend dashboards, optimizing JSON payloads to reduce retrieval time by 40%.
- Optimized **PostgreSQL** queries and indexing strategies, resulting in a 30% improvement in data processing efficiency.
- Maintained strict code quality through unit testing (**JUnit/PyTest**) and documentation, ensuring a production-ready codebase.

Software Engineer Intern | Cognizant Technology Solutions, India — Mar 2023 – Jul 2023
- Developed robust backend modules for enterprise applications using **Java** and **Spring Framework**, achieving 99% service availability.
- Implemented exception handling and logging mechanisms in a distributed environment, reducing system errors by 35%.
- Collaborated with cross-functional teams to resolve 100+ critical defects, ensuring adherence to Agile SDLC standards.
- Utilized **Git** for version control and participated in code reviews, achieving 100% test coverage for critical business logic.

Projects

Scalable Microservices E-Commerce Platform | Java, Spring Boot, Kafka, Kubernetes, AWS
- Designed a distributed microservices architecture (Order, Inventory, Payment) using **Spring Boot**, handling high-concurrency traffic.
- Implemented event-driven communication between services using **Apache Kafka**, decoupling systems and improving throughput by 40%.
- Orchestrated containerized deployment on **Kubernetes (EKS)** with auto-scaling policies to handle traffic spikes.
- Integrated **Redis** for caching frequently accessed product data, reducing database load and API latency by 50ms.

Real-Time Collaborative Code Editor | React, Node.js, WebSockets, Docker, Redis
- Built a real-time collaborative IDE allowing multiple users to edit code simultaneously, utilizing **WebSockets** for low-latency synchronization.
- Engineered a code execution engine using **Docker** containers to safely compile and run user code in isolated environments (Sandboxing).
- Implemented a **Pub/Sub** messaging model with Redis to manage user sessions and distribute state updates across server instances.
- Deployed the application on **AWS** with a CI/CD pipeline, ensuring seamless updates and high availability.

High-Throughput Distributed Rate Limiter | Java, Redis, Lua, System Design

- Developed a distributed API rate limiter library capable of handling 10k+ requests per second with varying limits per user/tier.
- Utilized **Redis Token Bucket** algorithm and Lua scripts to ensure atomic operations and prevent race conditions in a distributed cluster.
- Designed middleware that integrates seamlessly with **Spring Boot** applications to protect backend services from DDoS attacks.
- Benchmarked performance using **JMeter**, optimizing memory usage and reducing overhead to less than 5ms per request.

Achievements

- **LeetCode - Top 6.9%**: Solved **1400+ problems**, demonstrating mastery of Data Structures, Algorithms, and Dynamic Programming.
- **System Design**: Successfully designed and deployed multiple distributed systems handling high-throughput real-time data.
- **Collaboration**: Proven ability to work in Agile cross-functional teams, bridging the gap between Data Science and Engineering.