GIRIDHAR REDDY MEKAPOTHULA

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EDUCATION

Lamar University **July 2023 - May 2025**
Master's, Computer Science *GPA: 4.0*

PROFESSIONAL EXPERIENCE

Ciginiti
Software Engineer | Java, Spring boot, AWS, MySQL ,Docker *May 2024 - Present*
- Designed and developed Spring Boot microservices for inventory and billing modules, implementing RESTful APIs, Spring Security, and JWT authentication to support secure real-time vendor transactions and role-based access control.
- Built responsive UI components using React, Angular 8, Bootstrap, JavaScript, and HTML/CSS, improving vendor experience and reducing manual processes by over 50%.
- Enhanced client-side logic with React Hooks and implemented Axios-based API integrations, enabling faster and more reliable communication with backend microservices.
- Engineered scalable backend architecture using MySQL, JDBC, optimized indexing, and integrated AWS-managed services including DynamoDB, SQS, and Lambda, improving throughput and reducing latency across distributed components.
- Deployed containerized microservices using Docker, AWS ECS, and Azure Kubernetes Service (AKS), validating cross-cloud workloads and increasing test reliability through Junit/Mockito TDD and automated CI/CD pipelines.

Tejas Networks
Research & Development Engineer | C++ , Linux, Routing protocols , CLI , Git *July 2022 - July 2023*
- Implemented OSPF Database Limit (RFC 1765) and OSPF Sham Links (RFC 4577) in C++, enhancing Layer 3 routing stability, reducing control-plane overhead, and improving overall network performance.
- Developed and optimized system-level C++ modules on Linux, leveraging advanced data structures, multithreading, and debugging tools (GDB, Valgrind, tcpdump, Wireshark) to improve routing efficiency and protocol reliability.
- Configured, tested, and troubleshot routing behaviors using CLI-based network device operations, applying strong knowledge of OSPF, BGP, and MPLS L3VPN to validate routing tables, adjacency formation, and packet flows.

Infosoft Solutions
Software Engineer Java | Java, JS, TS, SQL, Maven, Gradle, Agile *June 2021 - May 2022*
- Developed back-end logic with Spring Boot APIs to implement a country-wide underwriting model to give policy quotes to over 500,000 potential customers, gaining the company an increase in revenue and sales.
- Engineered and executed load rebalancing strategies within Kafka, fostering 40 percent performance optimizations.
- Conducted a comprehensive review of test coverage in microservices, pinpointed gaps in test case scenarios, and added 250+ new test cases, resulting in a 50% decrease in production incidents.
- Utilized CI CD tools, Sonar to increase overall code quality by 35 %, Jenkins to reduce build time by 25%.
- Instituted Database connectivity with JDBC and maintained SQL scripts to manage and manipulate relational databases, ensuring data accuracy and efficiency in software applications.
- Developed automated unit testing using JUnit in a Java environment, resulting in a 50% reduction in defects and a 30% increase in test coverage.

PROJECTS & OUTSIDE EXPERIENCE

AI-Agents-for-Medical-Diagnostics *January 2025 - March 2025*
- Revolutionized diagnostic precision for complex medical cases by architecting a multi-agent GPT-4o system in Python, leveraging multithreading to process patient data 15% faster and enhance analysis.
- Accelerated system performance and reduced response time by 30% in real-time AI-driven diagnostic analysis by optimizing agent communication and data processing pipelines with Python, multithreading, and efficient data structures.
- Integrated robust CI/CD pipelines with Kubernetes orchestration, leading to a 60% reduction in deployment errors and a 2x increase in the frequency of system updates.
- Created a scalable system architecture, promoting swift integration of C++, CUDA, TensorFlow, and PyTorch modules; delivered 10 successful integrations within the internship period.

Event Finder App - TicketMasterApp *September 2024 - November 2024*
- Enhanced app performance and scalability by 30% in a global event discovery Android application by leveraging efficient data structures, MVVM architecture, Room database, and Dagger dependency injection.
- Orchestrated a shift to Git for version control, paired with rigorous code review processes; this cut down on integration errors by 12% and increased overall code quality in the Agile team.
- Engineered comprehensive suite of 25+ unit tests using JUnit and Mockito, covering critical functions of the TicketMasterApp, resulting in the identification of 10+ bugs prior to production.
- Structured a seamless event browsing experience by unifying TicketMaster and Google Maps APIs; optimized data storage through Room database implementation, resulting in 40% reduction in data retrieval latency.

Collaborative Whiteboard for Team Brainstorming *April 2024 - August 2024*
- Enabled real-time multi-user collaboration for over 50 simultaneous users by designing and implementing efficient data structures and algorithms in TypeScript and Node.js, optimizing for low latency and scalability.
- Deployed Python-based automated testing and monitoring scripts, catching 95% of integration issues before deployment by running tests as part of the CI/CD pipline and saving 10 hours weekly.
- Constructed modular backend architecture for seamless integration of CUDA, TensorFlow, and PyTorch, resulting in a 15% increase in overall system performance benchmarks.

SKILLS

Languages: Java, JavaScript, C/C++, Linux/Unix, Next.js, HTML/CSS, Python, MySQL
DataBases & Libraries: Mysql, MongoDB, Pandas, NumPy, Pytorch, OpenCV, React.js, Node.js, Express.js
Tools & Life Cycle models: Git, AWS, LiNux, Microsoft Azure, Docker, Kubernetes, Agile, Kanban, Waterfall