

Girishkumar Patchikoru

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TECHNICAL SKILLS

Programming Languages Python, Java, JavaScript(ES6+), TypeScript, SQL(MySQL, PostgreSQL), NoSQL(MongoDB, Cassandra)
Frameworks & Libraries React.js, Next.js, Node.js, Redux, Spring Boot, TensorFlow, PyTorch, REST/GraphQL
Cloud & DevOps AWS(lambda, S3, EC2, CloudFormation), Azure, GoogleCloud(GCP), Docker, Kubernetes, Terraform, Jenkins, CI/CD
Databases PostgreSQL, MongoDB, Redis, BigQuery, DynamoDB, Cassandra
Tools & Technologies Git, Jira, Apache Kafka, Spark, Prometheus, Ansible, Nginx, Webpack
System Design Microservices, Distributed Systems, Load Balancing, Sharding, Event-Driven, Architecture, API Design

EDUCATION

Texas A&M University Aug 2023 – May 2025
Master of Science in Computer Science -GPA: (3.83/4.0) **Texas, USA**

PROFESSIONAL EXPERIENCE

Texas A&M University, Information Technology(OnCampus) Jun 2024–Present
IT Student support worker **Corpus Christi, Texas**

- High-Availability Systems: Deployed a PostgreSQL cluster with read replicas and automated failover, ensuring 99.95% uptime for a student records system serving 15,000+ users.
- Security Compliance: Implemented FERPA-compliant encryption (AWS KMS) and RBAC, reducing breach risks by 40% and passing ISO 2701 audits.
- Cost Optimization: Reduced AWS spend by 30% via rightsizing EC2 instances and leveraging Spot Fleet for batch processing.

Frontend Developer Intern(remote) Jul 2024–Nov 2024
Sky IT Services **Alberta, Canada**

- Enhanced customer-facing web applications using React/Next.js, implementing AI-based optimization to reduce page load times by 40% and carbon emissions by 20% through resource-efficient data fetching and code splitting.
- Implemented a modular component library with Redux for state management, improving developer productivity by 30% and ensuring uniform design across multiple client projects.
- Integrated Power BI dashboards for 5,000+ active users, enabling near-real-time analytics that supported data-driven decision-making and increased user retention by 25%. Managed end-to-end testing with JUnit and Selenium, achieving 100% coverage on critical components and minimizing production regressions.

Devops Engineer Feb 2022–Aug 2023
Icertis Solutions Pvt Ltd **Pune, India**

- Backend Optimization & Automation – Led optimization efforts within the Core Platform DevOps team, reducing backend workload and improving system efficiency by automating Build Deployment failure resolutions.
- Feature Development & Efficiency Boost – Introduced a new feature in the ICM version section of Build Deployment using a String feature, minimizing effort and enhancing workflow efficiency.
- System Stability & Data Management – Designed a Backup & Deletion strategy for the Operational Data Store (ODS), ensuring data integrity and optimizing storage management while improving overall system stability.
- Cross-Team Collaboration & Issue Resolution – Provided critical support to 50+ internal product and delivery teams, swiftly resolving failures and addressing backlog issues to ensure uninterrupted operations.
- Testing, Documentation & Infrastructure Development – Conducted thorough codebase testing, created comprehensive documentation, and played a key role in developing new infrastructures for testing Power BI report deployments.

Full-Stack Engineer Aug 2021–Jan 2022
Tata Consultancy Services **Hyderabad, India**

- Legacy Modernization: Led migration of a monolithic telecom application to a Spring Boot microservices architecture, significantly improving API throughput and enabling faster feature delivery.
- Performance Tuning: Upgraded a JavaScript codebase to ES6 standards, reducing runtime memory usage and earning a Spotlight Award for technical excellence.
- Database Optimization: Restructured Oracle DB schemas and queries, decreasing average query latency and supporting substantial user growth without infrastructure scaling.

PROJECTS

Distributed E-Commerce Platform
— *React, Node.js, AWS, Kafka, Kubernetes* —

- Architected a high-traffic platform with real-time inventory tracking, order processing, and payment workflows, achieving 99.99% uptime via AWS auto-scaling and Kubernetes-managed micro services.
- Reduced API latency by 45% through Redis caching and Kafka-powered event-driven architecture.
- Implemented machine learning-based fraud detection (Python/TensorFlow), decreasing fraudulent transactions by 30%.

Real-Time Geospatial Analytics Engine
— *Python, Spark, Google Cloud, BigQuery* —

- Built a distributed data pipeline processing large volumes of geospatial data using Apache Spark, reducing ETL latency by 60% through parallelized coordinate transformations.
- Visualized insights with dynamic Mapbox dashboards, enabling Fortune 500 clients to optimize logistics routes and cut fuel costs by 25%.
- Integrated anomaly detection (PyTorch) to flag irregular patterns with 92% accuracy.

Kernel Craft: OS Scheduling, Memory Management & File Systems
— *C, xv6* —

- Implemented system calls specific to each scheduler and core Unix commands (find, ls, uniq, ...etc) enabling efficient task execution and enhancing process management, contributing to a 20% increase in operational efficiency.
- Analyzed and optimized CPU scheduling techniques to minimize Total Response Time (TRT) and Turnaround Time (TAT), achieving a 22% boost in process execution efficiency and reducing system latency.
- Efficiently utilized disk space, improved system performance by 15%, achieved fast process creation as well as file creation by implementing lazy allocation and copy-on-write fork techniques.