HARSHA VIPPALA

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SUMMARY

Software Engineer with 5 years of experience designing and deploying scalable, cloud-native applications using Node.js, TypeScript, Python, React & AWS. Currently leading development for 7-Eleven's mobile self-checkout platform, processing thousands of orders across U.S and Canada. Building projects with AWS Bedrock, Vertex AI, LangGraph & AI agents to explore generative AI applications.

SKILLS

Full-Stack Development: Node.js, TypeScript, NestJS, Next.js, React, Python, Git
Cloud & DevOps: AWS (Lambda, EC2, S3, ECS, CloudFormation, IAM, VPC, SQS, SNS), Docker, Kubernetes, Terraform, Ansible
APIs & Integration: RESTful APIs, Swagger/OpenAPI, GraphQL, gRPC, OAuth 2.0, JWT security, SSO, OpenID
Architecture & Design: Microservices, Serverless, Event-Driven, LangGraph
Databases & Storage: MongoDB, MySQL, PostgreSQL, DynamoDB, AWS RDS, Redshift, Redis, Kafka, Pinecone, Supabase
Monitoring & Observability: New Relic, Datadog, CloudWatch, ELK, Open Telemetry, Grafana
Testing & CI/CD: Jest, Cypress, Postman, Jenkins, GitLab CI/CD, GitHub Actions
Generative AI & ML: AWS Bedrock, Vertex AI, RAG, NLP, OpenAI APIs
Certifications: AWS AI Practitioner

EXPERIENCE

Software Engineer II | 7-Eleven | Irving, TX | February 2024 – Present
- Led design, development, testing, and scaling of serverless Node.js/TypeScript microservices using AWS Lambda and API Gateway, contributing to ~$500K in monthly sales across 60+ stores while ensuring 99.9% uptime.
- Integrated AWS IoT Core with in-store edge devices to perform QR code validation and trigger audio feedback, supporting real-time order verification and enhancing the efficiency of in-store transactions.
- Refactored critical backend systems to support EBT payment and split-tender logic, enhancing mobile order capabilities and boosting adoption by 15% in key regions.
- Improved backend scalability and performance by implementing Redis caching and compound indexes in MongoDB, reducing peak-traffic latency by 40% and increasing system reliability.
- Built observability pipelines with CloudWatch Logs Insights and New Relic APM. Defined SLO-based dashboards and automated alerts to cut incident response time by 25% across engineering teams.

Senior Software Engineer | Liberty Mutual Insurance | Boston, MA | February 2023 - February 2024
- Developed resilient GraphQL APIs using NestJS, enabling seamless integration with third-party services and automating quote workflows, eliminating manual processes across teams.
- Designed and implemented a user interaction tracking feature using Kafka and AWS Kinesis, providing business teams with real-time insights to drive data-driven product decisions, helping drive a 7% increase in conversion rates.
- Refactored the Cart and Checkout class components into functional components using useMemo for subtotal calculations and React.lazy/Suspense for code-splitting, cutting the initial bundle size by 15% while improving code modularity.
- Architected scalable GraphQL API layers to support high-throughput quote aggregation with minimal latency, cutting frontend integration complexity and load times by 35%.
- Mentored and led 3 interns in building an internal product availability microservice with AWS Lambda & DynamoDB, delivering it on time and integrating it into production workflows.

Software Engineer | Liberty Mutual Insurance | Boston, MA | January 2021 - February 2023
- Developed and optimized backend quoting services using Express.js for the insurance platform, handling 87,000+ monthly visits.
- Built comprehensive automated end-to-end tests with Cypress, raising test coverage from 60% to 95% and reducing regressions by 40%, which ensured consistent user experiences.
- Partnered with product owners to define gRPC contracts, ensuring consistent data models and seamless service integrations.

EDUCATION

Master of Science in Computer Engineering | New York University | New York, NY | May 2021
Bachelor of Technology in Computer Science & Engineering | K L University | Vijayawada, India | May 2019