Nithish SureshBabu

Software Developer

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Summary

Dynamic Software Developer with over 1.5 years of hands-on experience in backend development and AI model integration. Proficient in Go, AWS, and real-time application architectures, with notable achievements such as 98.5% accuracy in deepfake detection and 92% sentiment classification in tweet analysis. Successfully designed high-availability systems capable of supporting multiple concurrent users with low latency. Equipped to bring innovative solutions and optimization strategies that drive efficiency and performance enhancements, aligning perfectly with the needs of any software-centric organization.

Work Experience

Full Stack Developer (Freelance), Central Marine Fisheries Research Institute - India, Remote, Seattle , USA

05/2025 – Present

- Constructed an offline-first mobile and web ecosystem designed for marine researchers studying coral reefs in locations with unreliable internet access.
- Technical Implementation Included:
- Mobile Solutions: Leveraged React Native for an offline-first architecture that supports field operations.
- Web Solutions: Applied Vue.js and Tailwind CSS to create a responsive user interface for data management.
- Backend Services: Developed Go RESTful APIs deployed on AWS to offer scalable processing solutions.
- AI Integration: Employed Ollama/TinyLlama on EC2 for species identification combined with Wikipedia integration.
- Data Synchronization: Established solid protocols ensuring data integrity throughout varying connectivity situations.
- Complete Technology Stack: React Native, Vue.js, Tailwind CSS, Go, AWS (EC2, S3), Ollama, PostgreSQL.
- Significant Impact: Successfully removed connectivity limitations for marine research in geographically isolated locations.

Research Assistant - GenAI, University of Michigan - Deep Fake Research Lab (Volunteer), Michigan, USA

09/2024 – 12/2024

- Leveraged the GenImage dataset to train an AI detection system, achieving a remarkable 98.5% accuracy rate in deepfake image identification, thus positioning the system as a benchmark for future academic research.
- Surpassed existing methods in deepfake image detection by attaining a 98.5% accuracy, outperforming benchmark tests by 3.7%.
- Evaluated leading AI/ML models such as Midjourney, Stable Diffusion, ADM, GLIDE, Wukong, VQDM, and Big, illustrating superior detection capabilities across diverse image classes.

Software Engineer - Chat Application, Personal Project, Lynwood, USA

01/2024 – 04/2024

- Engineered a Discord-inspired chat platform capable of supporting 2,500 concurrent clients across eight backend servers, achieving message delivery with an average latency of under 100ms through the utilization of Go, WebSockets, and connection pooling methods for optimal resource management.
- Implemented a persistent chat storage solution using DynamoDB with Global Secondary Indexes, reaching 10ms read/write latency and designed a consistent hashing router for enabling seamless horizontal scaling with minimal service disruption.
- Integrated AWS SQS FIFO queues for guaranteed in-order message broadcasting while containerizing the application with Docker, reducing deployment time by 40% through CI/CD pipeline optimization and comprehensive monitoring.
- Acquired expertise in distributed system design patterns, high-availability architectures, WebSocket communication protocols, and AWS service integration relevant to real-time applications.

Software Engineer - Tweets Sentiment Analysis, Personal Project, Michigan, USA

02/2024 – 05/2024

- Developed an analytics platform capable of processing over 10,000 tweets per hour while achieving 92% sentiment classification accuracy through a fine-tuned Llama-2 model and optimized prompt engineering techniques utilizing LangChain.
- Created a responsive interactive dashboard with customizable time-range and hashtag filters, visualizing sentiment distribution, trending keywords, and temporal patterns with real-time updates.
- Achieved a 35% reduction in per-tweet latency through LangChain pipeline optimization and maintained 96.9% uptime during high-traffic periods utilizing a containerized Docker deployment with auto-scaling capabilities.
- Mastered the integration of large language models, prompt engineering techniques, real-time data processing pipelines, and data visualization strategies to extract actionable insights.

Software Engineer - Smart Door Authentication, Personal Project, Michigan, USA

03/2024 – 06/2024

- Engineered a distributed smart door system featuring secure face authentication employing AWS Kinesis Video Streams and Rekognition, attaining a 98% recognition accuracy with response times under 2 seconds.
- Developed a time-limited SMS-based OTP system achieving a 99.99% delivery rate via AWS SNS for authorized visitor verification, combined with comprehensive visitor management featuring detailed access logs.
- Constructed a visitor registration portal managing over 500 registrations through DynamoDB CRUD operations, ensuring 99.95% API availability via Lambda auto-scaling during peak demand periods.
- Acquired expertise in AWS computer vision services, serverless architectures, multi-factor authentication systems, and secure API design principles.

Education

Master of Science, Computer and Information Science, University of Michigan, Michigan, USA

08/2023 – 04/2025

- GPA: 3.8

Bachelor of Technology, Computer Science and Engineering, Anna University, Channai, India

08/2018 – 05/2022

- GPA: 3.4

Skills

Golang Python C/C++ JavaScript TypeScript PostgreSQL MySQL DynamoDB SQLite3 Redis AWS Google Cloud Docker Kubernetes Git gRPC GitHub Workflows Microservices Architecture Serverless Computing Ollama LangChain OpenAI PyTorch OpenCV AWS Rekognition

Awards and Recognitions

TOP 80 in NATIONAL WIDE - INDIA, VISHWAKARMA AWARD - 2020

PEOPLES CHOICE OF THE YEAR 2025, GOOGLE DEVELOPER'S CLUB - GDC 2025