

Kana Hakshay Reddy

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PROFESSIONAL SUMMARY

Computer Science graduate (AI & ML) with hands-on backend engineering experience at PayPal, developing cloud-native microservices, REST APIs and distributed systems using Java and Spring Boot. Proficient in event-driven architecture, Kafka, Redis and OAuth 2.0 security. Applying machine learning, LLMs and agentic AI frameworks to production-grade applications. Solved 1,000+ algorithmic problems on LeetCode (top 4.4%), reflecting a strong foundation in data structures, algorithm design & complexity analysis.

EDUCATION

Vellore Institute of Technology 2022 - 2026

B.Tech, Computer Science & Engineering (AI & ML) | CGPA: 9.82 / 10.00

Awarded: Best Outgoing Student | Chancellor's Gold Medal

EXPERIENCE

PayPal | Software Engineer Intern | Chennai, India May 2025 - Aug 2025

- Modernized 10+ business-critical workforce management workflows by migrating legacy batch jobs into Spring Boot microservices, cutting average deployment cycle time by 3 days per workflow and improving system maintainability.
- Architected a full-stack internal operations tool using Next.js, Spring Boot, REST APIs, OAuth 2.0 and SSO, reducing manual operational tasks from ~4 hours to under 90 minutes per day for end users.
- Constructed a voice-enabled AI assistant integrated with PayPal's internal knowledge base using LLM and RAG techniques, reducing average information-retrieval time from 8 minutes to under 2 minutes for support teams.
- Unified 10+ internal and third-party service integrations through standardized REST APIs and monitoring pipelines using OpenTelemetry, cutting average issue-resolution time by roughly 40 minutes per incident.
- Facilitated 8 Agile sprint cycles contributing to sprint planning, technical code reviews, QA test execution and production incident debugging alongside cross-functional stakeholders and product owners.

TECHNICAL SKILLS

Languages	: Java (OOP, DSA), Python, C++, C, Oracle SQL
Backend & APIs	: Spring Boot, REST APIs, SOAP, Microservices, WebSockets, OAuth 2.0, JWT, Spring Security
Distributed Systems	: Apache Kafka, Event-Driven Architecture, Redis Caching, Message Queues
AI / ML	: PyTorch, Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Agentic AI, MCP, Neural Networks, Vision Transformers, Federated Learning, Explainable AI
Cloud & DevOps	: AWS (EC2, ALB, ASG, ElastiCache, Secrets Manager, ACM), Docker, Kubernetes, GitHub Actions, CI/CD, OpenTelemetry, Grafana
Databases & ORM	: PostgreSQL, Hibernate, JPQL, Keyset Pagination, Redis
Frontend	: Next.js, Server-Side Rendering (SSR), Google Lighthouse Optimization

PROJECTS

PingMe - Distributed Real-Time Communication Platform [GitHub](#) | [Live](#)

Java · Spring Boot · WebSockets · AWS (ECR, ALB, ASG, ElastiCache, ACM) · OAuth 2.0 · JWT · GitHub Actions · Grafana

- Designed and deployed a cloud-native distributed real-time messaging platform on AWS with Load Balancing and Auto-Scaling, sustaining 2500 concurrent connections and 569 requests per second under production load.
- Eliminated N+1 query patterns and reduced paginated message-list retrieval from O(N) to O(1) by applying Hibernate Entity Graphs, JPQL projections and Keyset Pagination on PostgreSQL.
- Secured all REST and STOMP WebSocket endpoints via Spring Security, Google/GitHub OAuth 2.0 social login and stateless JWT authentication, achieving zero authentication-related vulnerabilities in penetration testing.

- Established a full CI/CD pipeline with GitHub Actions for zero-downtime deployments; instrumented the application with OpenTelemetry, Micrometer and Grafana Cloud dashboards, enabling sub-5-minute incident detection.
- Delivered a Server-Side Rendered Next.js frontend integrated with backend APIs, attaining a Google Lighthouse performance score of 97/100 on first-load metrics.

Privacy-Preserving Face Forgery Detection - Federated Learning

[GitHub](#)

Python · PyTorch · Vision Transformers · Flower Framework · Federated Learning

- Built a federated learning framework across client nodes that trains a shared forgery-detection model without exposing private data, supporting up to 12 participating nodes simultaneously.
- Engineered a dual-stream Vision Transformer (ViT) architecture combining spatial RGB features and frequency-domain DCT analysis to detect GAN-based and diffusion-model deepfakes robustly.
- Attained 95.12% classification accuracy and 98.43% AUC on the FaceForensics++ benchmark, surpassing 5 baseline models including ResNet-50 and EfficientNet-B4 by 3-6 accuracy points.

ACHIEVEMENTS & CERTIFICATIONS

- LeetCode Knight (Top 4.4%) resolved 1,000+ curated problems spanning DP, graph algorithms and system design, demonstrating consistent algorithmic depth.
- Runner-Up, Nova Code Challenge by 9am Careers ranked 2nd among 500+ participants from the 2025-2027 graduate cohort in a competitive programming contest.
- AWS Academy Cloud Architect Graduate (Amazon Web Services) completed hands-on labs covering cloud-native architecture, decentralized computing, auto-scaling and fault-tolerant service design.