

## Lahari Karrotu

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### EXPERIENCE

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#### Software Engineer | Oracle

May 2025 – Present

- Work on provider credentialing system for Oracle Health integrating with hospital EHR systems. Built REST API endpoints using Java Spring Boot processing HL7/FHIR messages for credential verification. Implemented OAuth2 authentication for secure data exchange with external healthcare providers.
- Debugged production issue where credential verification API was failing intermittently due to database connection timeouts. Added retry logic with exponential back off and connection pooling—success rate improved from 87% to 98%. Reduced average verification turnaround from 48 hours to 4 hours.
- Optimized slow Oracle Database query loading provider dashboard analytics. Used EXPLAIN PLAN to identify full table scan, added composite index on (provider\_id, status, last\_updated)—query execution time dropped from 6 seconds to 2 seconds.
- Set up CI/CD pipeline with Jenkins deploying microservices to Oracle Cloud Infrastructure (OCI). Configured database migration scripts using Liquibase, implemented automated testing for API endpoints. Added monitoring using Oracle Application Performance Monitoring (APM).

#### Software Engineer Intern | Anguliyam AI Solutions

Jun 2024 – May 2025

- Built and shipped VoiceNav Assistant (event-driven micro services) for visually impaired users—integrated Google Speech-to-Text + Porcupine wake-word detection. Deployed on Azure App Service serving 200+ beta testers.
- Reduced API response time 3s → 800ms using Redis caching keyed by audio hash (65% hit rate). Implemented JWT auth with role-based access—bcrypt password hashing, httpOnly cookies to prevent XSS.

#### Software Engineer Intern | Adobe Creative Cloud

Jan 2022 – Aug 2022

- Worked on Adobe Express web application fixing bugs and implementing new UI features using React + TypeScript. Refactored image loading components to use lazy loading with WebP format and fallbacks—reduced initial page load time from 4.2s to 2.8s.
- Contributed to internal React component library used across Creative Cloud web apps. Built reusable color picker with keyboard navigation and ARIA labels for accessibility. Fixed Safari CSS rendering bugs in layer panel component.
- Debugged production issue where undo/redo functionality broke on text editing, traced through Redux state to find race condition in action dispatchers. Wrote Jest unit tests for canvas increasing test coverage from 65% to 82%.

#### Software Engineer Intern | EPAM Systems

Dec 2020 – Mar 2021

- Worked on backend services for e-commerce client migrating customer data from MySQL to PostgreSQL. Built Python ETL scripts with Pandas for data validation—caught 3,200 duplicate records before migration. Optimized slow analytics API endpoint by adding database index after profiling query execution plan with EXPLAIN ANALYZE.

### PROJECTS

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#### Health-scan — AI healthcare assistant for prescription analysis ([healthscan.app](#))

- Built 3-engine AI system (Vision Engine: Gemini Pro 1.5 + OCR for prescription extraction → Planner Engine: LLM action planning → Executor Engine: Playwright automation) processing medical documents with drug interaction checking via RxNav API. Deployed full-stack on Vercel with FastAPI + PostgreSQL + Redis + Celery task queues, implementing PII redaction + audit logging for healthcare compliance.

#### Blinds & Boundaries — AI-powered virtual try-on for window blinds ([blinds-boundaries.app](#))

- Built production app with hybrid AI detection (Azure Computer Vision → Gemini → OpenCV fallback) for window detection + 3D blind overlay with realistic shadows/lighting. Implemented scalable architecture using Repo/Factory/Strategy patterns with LRU cache (O(1) operations), vectorized NumPy algorithms, deployed on Azure App Service + Vercel with Azure Blob Storage CDN.

### EDUCATION

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**Master's in Computer Science** — Florida Institute of Technology, Melbourne, FL (2024)

**Bachelor's in Computer Science** — KL University, India (2022)

**Relevant Coursework:** Machine Learning, Database Systems, Cloud Computing, Software Engineering, Algorithms & Data Structures

### SKILLS

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**Languages:** Python, Java, JavaScript, TypeScript, SQL • **Backend:** FastAPI, Spring Boot, Node.js, REST APIs • **Frontend:** React, Redux, HTML/CSS, Tailwind CSS • **Cloud:** Oracle Cloud (OCI), Azure (App Service, Blob Storage), AWS (Lambda, S3) • **Databases:** Oracle Database, PostgreSQL, Redis • **AI/ML:** Gemini API, Azure Computer Vision, OCR • **Tools:** Git, Jenkins, Docker, Jest, Liquibase

### CERTIFICATIONS

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**AWS Certified Solutions Architect – Associate** | [View Credential](#)