PRATHEEK PALANGAPPA

Mail: palangappa8@gmail.com | Phone: +91-9008164388

Location: Bengaluru

PROFESSIONAL SUMMARY

Software Engineer with 2.5 years of experience building web applications, AI-driven modules, automation systems, and agentic workflows in healthcare and inventory domains. Skilled in Next.js, React.js, Node.js, Java, Python and integrating AI services (LLMs, image analysis, retrieval-augmented generation) into production systems.

EXPERIENCE SUMMARY

- Proficient in Next.js, React.js, Node.js, Java, Python and RESTful API development with MySQL and MongoDB.
- Experienced in building AI-enabled features using LLMs, embeddings, and vector search for structured and unstructured data.
- Hands-on experience in healthcare applications including EMR, Drugs & Consumables, Inventory, Patient Monitoring, and ABHA/ICD/LOINC integration.
- Built AI-based purchase request automation for fine dining inventory management, optimizing stock levels and vendor-based ordering.
- Developed AI image analysis workflows for skin and radiology images to detect possible anomalies and support clinical triage.
- Strong front-end engineering skills using React, Next.js, Tailwind CSS, Shadcn UI, React Hook Form, and Zod.
- Comfortable designing database schemas, writing optimized queries, and ensuring data consistency across modules.
- Collaborates closely with clinicians, business users, and product teams to translate requirements into reliable, user-friendly systems.

WORK EXPERIENCE

Software Engineer – GyrIT Solutions | Aug 2023 – Present | Bengaluru

Project: RxDx Streamline – Healthcare & AI Platform

- Developed and enhanced core hospital modules including Drugs & Consumables, Inventory Management, HR, Installment Packages, Masters, and Patient Monitoring screens.
- Built responsive, workflow-driven interfaces in Next.js/React for creating and tracking drug and consumable requests across departments.
- Collaborated with backend teams to integrate REST APIs for billing, EMR, TPA, and operational dashboards.
- Worked on ABHA-related flows and clinical code mappings (ICD and LOINC) to standardize patient and medical data.
- Designed and integrated an **agentic AI layer using RAG (vector embeddings + LLM reasoning)** to query structured (databases) and unstructured (documents, clinical notes) data and generate actionable insights.
- Implemented Retrieval-Augmented Generation (RAG) workflows using **Sentence Transformers (all-MiniLM-L6-v2) from Hugging Face** to generate semantic embeddings and enable vector similarity search over clinical data.
- Improved usability and reduced time taken for order creation and patient lookup by iterating with feedback from doctors, nurses, and admin staff.

Project: AI-Based Purchase Request Automation – Fine Dining Inventory

- Designed and developed an AI-powered Purchase Request (PR) automation system for fine dining inventory management.
- Built stock prediction and vendor recommendation models using **Random Forest and historical consumption analysis**, improving ordering efficiency and reducing wastage.
- Analyzed stock consumption patterns, menu demand, and vendor history to generate AI-suggested purchase quantities and recommended vendors.
- Implemented backend workflows in Node.js to handle PR creation, approval flows, and vendor assignment with proper audit trails.
- Built front-end dashboards for inventory status, low-stock alerts, PR tracking, and vendor performance monitoring.
- Integrated rule-based and AI-driven checks to prevent over-ordering and stock-outs, improving efficiency and reducing wastage.
- Collaborated with business stakeholders to fine-tune AI recommendations and align them with real-world purchasing behavior.

Project: AI Image Analysis & Agentic Workflows

- Worked on AI-based image analysis pipelines for skin and radiology images (X-ray/MRI) to detect potential anomalies and support clinical decisions.
- Built preprocessing and inference using **Python (OpenCV, NumPy, PyTorch**) and served models via Flask APIs.
- Created UI components to upload images, display prediction scores, and visualize heatmaps/overlays from AI models.
- Experimented with agentic AI patterns to orchestrate multi-step tasks involving retrieval, reasoning, and action execution over healthcare data.
- Collaborated with cross-functional teams to evaluate AI outputs and iterate on model integration to improve accuracy and usability.

ROLES AND RESPONSIBILITIES

- Own end-to-end feature lifecycle across frontend, backend, and AI integration: design, implementation, testing, and release.
- Translate business and clinical requirements into clean, maintainable code and intuitive user flows.
- Work with secure-by-default patterns (authentication/authorization, validation) and follow best practices for handling healthcare and financial data.
- Use efficient data access patterns, caching, and asynchronous processing to keep user-facing flows responsive.
- Monitor application behavior using logs and basic metrics; participate in troubleshooting and production issue resolution.
- Write maintainable code through peer reviews, refactoring, and clear documentation of APIs, flows, and AI behavior.

TECHNICAL SKILLS

- Frontend & UI: Next.js, React.js, JavaScript, Tailwind CSS, Shadcn UI, React Hook Form, Zod.
- Backend & APIs: Node.js, Express.js, Java, Spring Boot, REST APIs, basic microservice patterns.
- Databases & Tools: MySQL, MongoDB, Git/GitHub, JIRA, Postman. AI: LLMs, embeddings/vector search, basic image analysis and agentic workflows.

EDUCATION

Bachelor of Engineering (ECE) | AMC Engineering College, Bengaluru (VTU) | 2019.