

# SAKETH TADEPALLI

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## Summary

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Full-stack Software Engineer with strong fundamentals in **OOP, Data Structures, and Algorithms**, and hands-on experience building production-ready applications across **React, TypeScript** frontends and **Spring Boot, Python (FastAPI)** backend services. Comfortable designing secure **APIs**, working with **SQL and NoSQL** databases, and building systems that handle real-world performance and reliability constraints. Experienced integrating **AI/ML workflows** (RAG, vector search, scikit-learn inference) into backend services, and deploying containerized applications on **AWS**. I like writing clean code, keeping things practical, and shipping features that hold up in production.

## Education

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**Master of Science, Computer Science**, University of Massachusetts Boston      Sept 2023 – May 2025

- **Relevant Coursework:** Software Engineering, Object-Oriented Design & Programming, Databases, Applied Machine Learning.

## Technologies

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**Languages & Scripting:** Java, Python, JavaScript/TypeScript, SQL, Shell, C, C++

**Frontend & UI:** React.js, Next.js, Tamagui, Expo Router, Redux, HTML5, CSS3

**Backend & APIs:** Spring Boot, FastAPI, Node.js, RESTful APIs, GraphQL

**Databases & Caching:** PostgreSQL, MySQL, MongoDB, DynamoDB, Redis

**AI/ML & Data:** LangChain, ChromaDB, RAG Pipelines, Vector Search/Embeddings, Prompt Engineering, scikit-learn, Pandas

**Cloud & DevOps:** AWS, Terraform, GitLab CI/CD, Jenkins, Git

**Systems:** Multithreading, Concurrency Control, Async I/O, ETL Pipelines, Agile/Scrum, Jira

## Experience

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**LiveBest Services (LBS)**, Full-Stack Software Engineer – California (Remote)      Jun 2025 – Present

- Built **end-to-end onboarding flows** in **React Native Web** and wired every step to backend APIs for multiple healthcare modules; handled **multi-stage forms**, field validation, **save-draft/resume**, review & submit, OTP verification, and role-based gating.
- Implemented **learning management** screens (Courses, Study Materials, Training/Tests, Progress) with reusable UI components, search/filter/sort, progress tracking, and responsive layouts to keep the UX consistent across web.
- Worked deeply with **GraphQL (Apollo)**: wrote typed queries and mutations for complex **nested payloads**, managed loading/error states, updated cache predictably, and stabilized forms with consistent state handling and clear error messages.
- Contributed to **API work** by defining request/response contracts, updating GraphQL schema inputs with the backend team, and adding and validating rules so bad data is caught early (client + server) before submission.
- Built **payments/billing** flows: connected UI to billing APIs, computed fees, handled states, and ensured billing data stays in sync with backend records for accurate reporting.

- Built an NLP chatbot using **LangChain** and **ChromaDB** by implementing an end-to-end **Retrieval-Augmented Generation (RAG)** pipeline for grounded Q&A over internal documents.
- Collected and curated the knowledge base (PDFs/notes/internal docs), researched RAG design choices, and finalized the approach with a **4-person team** based on accuracy and latency trade-offs.
- Implemented the ingestion workflow: document parsing, **chunking**, **embedding generation**, and storage in **ChromaDB**; tuned chunking and embeddings to improve retrieval relevance.
- Designed and optimized **vector indexing** and retrieval logic to return the most relevant context while keeping responses fast and consistent.
- Developed prompt templates that force answers to stay within retrieved context, added fallback behavior for low-confidence retrieval, and iterated on **prompting + retrieval** together to reduce hallucinations.
- Built an evaluation harness and automated tests in **Pytest** with a fixed Q&A set to measure retrieval accuracy and regression-test quality across changes in chunking, embeddings, and prompts.

## Projects

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### Stock Portfolio Rebalancer & Risk Manager – Full Stack FinTech Application

- Built a full-stack fintech application that helps users rebalance portfolios based on **risk tolerance**, target allocation, and **real-time market volatility**.
- Developed the core backend in **Java Spring Boot** with REST endpoints (e.g., rebalancing execution, portfolio drift calculation, allocation targets) and secured access using **Spring Security + JWT**.
- Modeled transactional data in **PostgreSQL** (Users, Portfolios, Holdings, Transactions) and improved read performance using indexing and optimized aggregation queries for fast portfolio snapshots.
- Implemented a separate **Python (scikit-learn)** service to predict short-term volatility and flag sector overexposure; integrated it with the Java backend via service-to-service REST calls before triggering rebalancing actions.
- Introduced event-driven workflows using **Kafka** to publish portfolio updates and alerts, keeping notifications decoupled from the rebalancing engine.
- Dockerized services and deployed on **AWS EC2**; used **AWS Lambda** for scheduled price refresh and nightly valuation updates.