

# Kalp Lathia

## Senior Full-Stack Engineer – AI Systems & Agent Architectures

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### PROFILE

Senior **Full-Stack Engineer** with 6+ years of experience building scalable web platforms and production-grade **AI systems**. Specialized in architecting and scaling end-to-end applications combining **React/Next.js, Node.js/FastAPI**, and **multi-agent LLM workflows** including planner–executor architectures, tool orchestration, and vector search pipelines. Strong background in designing reliable backend APIs, real-time streaming systems (SSE/WebSockets), and AI-powered document processing and **automation platforms**. Owns system architecture from frontend to infrastructure, delivering robust, high-performance applications for US-based product teams.

### CORE SKILLS

#### Full-Stack Engineering:

- React, Next.js (SSR), Angular
- TypeScript, JavaScript, Python
- Node.js (Express), FastAPI
- REST APIs, WebSockets, Server-Sent Events (SSE)
- Authentication & Authorization (JWT, OAuth)
- Admin Dashboards & Real-Time Interfaces
- Background Jobs & Asynchronous Processing
- API & System Design

#### AI & Agent Systems:

- Multi-Agent Architectures (Planner–Executor, Tool Orchestration)
- LLM Integrations (OpenAI, Anthropic)
- Vector Search & Embeddings (Pinecone, OpenAI Embeddings)
- Retrieval-Augmented Generation (RAG) Pipelines
- Structured Tool Invocation & Execution Planning
- Real-Time Streaming AI Systems
- LangChain, LlamaIndex

#### Infrastructure & Storage:

- MongoDB, Prisma ORM
- AWS (EC2, S3), Google Cloud Run
- Firebase (Realtime DB & Hosting)
- Docker (Containerized Services)
- CI/CD Pipelines (GitHub Actions)

### EXPERIENCE

#### CLOSERLOOK AI

*Boston, MA*

Senior Full-Stack Engineer – AI Agents

Apr 2025 – Present

- Architected production-grade multi-agent AI systems (Planner–Orchestrator–Tool) integrating LLMs with embedding-based retrieval for autonomous research and document automation workflows.
- Designed centralized execution-planning and tool orchestration framework, reducing manual task decomposition effort by ~50% across multi-step automation pipelines.

- Implemented multi-LLM routing, fallback strategies, and reliability safeguards, reducing failed agent executions by ~30% in real-time AI systems.
- Built scalable backend services (Node.js, FastAPI) supporting 100+ concurrent AI workflows including file ingestion, semantic search, and verification pipelines.
- Engineered semantic retrieval infrastructure across structured and unstructured datasets, improving contextual matching and search relevance in property discovery systems.
- Led full-stack architecture (React/Next.js + backend APIs), mentored 5 engineers, and partnered with US leadership on AI product and technical strategy.

#### **KEVNIT SOLUTIONS PVT. LTD.**

*Bangalore, India*

Senior Full-Stack Engineer

Mar 2022 - Mar 2025

- Led full-stack development across blockchain and AI products, transitioning company focus from NFT marketplace platforms to LLM-powered automation systems.
- Built AI-driven conversational platforms integrating LLM APIs with real-time interfaces, enabling product discovery, chatbot support, and workflow automation.
- Designed semantic search and embedding pipelines for property discovery systems, combining vector retrieval with structured MLS and image data.
- Developed automation services for agent data enrichment using web scraping, data normalization, and AI-based personalization workflows.
- Designed and implemented modular research agent systems with tool-based execution, file processing, document conversion, and multi-step task orchestration.
- Owned frontend architecture (React/Next.js, Angular) and backend API design while mentoring engineers and collaborating with US-based product leadership.

#### **BACANCY TECHNOLOGY**

*Ahmedabad, India*

Frontend Engineer (Angular)

Jan 2020 – Feb 2022

- Built enterprise Angular/AngularJS applications including admin dashboards, analytics reporting, and document-generation workflows for US healthcare clients.
- Developed reusable Angular libraries within Nx workspace architecture, improving modularity and maintainability across large-scale applications.
- Contributed to calculation-heavy and PDF-intensive systems used in production healthcare environments.
- Progressed from intern to full-time frontend engineer, delivering production-grade UI systems in a collaborative team setting.

#### **EDUCATION**

##### **Darshan University**

*Rajkot, India*

Bachelor of Engineering in Computer Engineering

2016 - 2020