

AKASH KUMAR

Senior Software Engineer

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PROFESSIONAL SUMMARY

Full Stack AI Engineer with 8+ years delivering enterprise-scale products — leading design and development of an end-to-end Agent Builder Platform including multi-agent orchestration, agentic RAG, CodeAct, and deep research workflows, to architecting cross-platform video conferencing applications with Electron.js and Amazon Chime SDK. Combines deep frontend and backend expertise (React.js, Node.js, FastAPI, Python) with hands-on AI systems experience to take products from prototype to production.

CORE TECHNICAL SKILLS

Frontend: React.js, Next.js, TypeScript, Redux, Tailwind CSS, Javascript, Angular

Backend: Node.js, Python, FastAPI, Flask, Go, Express.js, System Design

Cloud & DevOps: AWS (Lambda, EC2, RDS, S3, CloudFront, AgentCore), Serverless Architecture, Docker, Kubernetes, Ansible

AI & ML: LangChain, LangGraph, CrewAI, RAG, MCP, Generative AI, AI Agents, Bedrock, AWS AgentCore, Temporal, Distributed Systems, Prompt Engineering

Databases: PostgreSQL, MongoDB, Redis, AstraDB (Cassandra)

Tools: Cursor, Claude Code, GitHub Copilot

PROFESSIONAL EXPERIENCE

Senior Software Engineer | Grid Dynamics, Bengaluru, India | February 2025 – Present

- **Agent Builder Platform** – Led end-to-end design of an Agent Builder Platform, engineering agentic workflows with LangChain and Temporal for autonomous multi-step task execution; built a FastAPI-based Dynamic Agentic Registry for agent lifecycle management; and created a React Flow Visual Workflow Builder enabling no-code multi-agent pipeline composition.
- **Multi-Agent Orchestration (AWS AgentCore)** – Built a managed multi-agent execution service on AWS AgentCore Runtime supporting deployment of CrewAI and LangGraph agents; leveraged AgentCore Gateway as a centralized MCP tool server converting REST APIs and Lambda functions into agent-discoverable tools, with AgentCore Memory for persistent cross-session state.
- **Deep Research Agent (Temporal)** – Architected a production-grade Deep Research Agent using Temporal for durable workflow orchestration with multi-step parallel activity pipelines, dynamic branching, and stateful checkpointing; designed horizontal scaling via distributed Temporal workers enabling 100+ concurrent research sessions with fault-tolerant automatic retry across worker failures.
- **CodeAct Agent (Temporal + Daytona)** – Built a CodeAct Agent orchestrated via Temporal workflows where user intents are translated into executable code running in isolated Daytona sandboxes; each activity provisions a fresh workspace, executes code, captures stdout/stderr, and feeds results back into the agent loop for iterative refinement with full auditability.
- **Agentic RAG (Temporal + LangChain)** – Architected an agentic RAG system where a Temporal-orchestrated agent iteratively refines retrieval queries based on intermediate reasoning; decomposes complex queries into sub-questions, performs dense vector search against a pgvector knowledge base, evaluates retrieved context for relevance, and triggers LLM-guided rewriting when confidence is low — enabling accurate multi-hop reasoning.

Senior Software Engineer | Tech9, Pune, India (Remote) | January 2021 – January 2025

- Engineered a **cross-platform video conferencing solution** using **Amazon Chime, React, Electron.js, Node.js, and AWS Serverless services**, delivering reliable, low-latency communication for web and desktop users.
- Designed and implemented **20+ serverless REST APIs** using **AWS Lambda and Node.js**, enabling scalable meeting orchestration, authentication, and real-time collaboration capabilities.
- Identified and resolved **memory leak issues in the Electron desktop application** by optimizing event listeners, IPC communication, and resource lifecycle management, improving application stability and reducing memory consumption.
- Improved frontend performance through **lazy loading, code splitting, and component optimization**, significantly enhancing page responsiveness and user engagement.
- Contributed to the **redesign of a jewelry e-commerce platform**, optimizing the checkout experience, improving mobile usability, and modernizing the UI to drive higher conversion rates.

Software Engineer | Ignite Solution, Pune, India | *August 2018 – January 2021*

- Architected and developed a **League Management System** using **React and Flask**, enabling team registration, match scheduling, live score updates, player statistics, and automated notifications.
- Built a **secure payment service platform** using **Angular**, integrating payment gateways, invoicing capabilities, and real-time transaction tracking while adhering to security and compliance standards.
- Optimized **React application performance** through lazy loading, code splitting, and component rendering improvements, reducing page load time by **40%** and improving overall user experience.

Full Stack Developer | Geek Informatic & Technology Pvt. Ltd, Chandigarh | *August 2017 – August 2018*

- Developed a **video-centric job portal** using the **MEAN stack**, building end-to-end features for video uploads, processing, and content management.
- Implemented **video processing pipelines using FFmpeg**, improving video quality, compression, and playback performance across multiple devices and network conditions.
- Configured and managed **AWS infrastructure**, including **Elastic Load Balancers (ELB)**, **Route 53**, and deployment environments to ensure high availability and scalability.

Software Developer Intern | Appnovation Technology Solutions Pvt. Ltd, Hyderabad | *December 2016 – June 2017*

- Contributed to the development of **Smartwinnr**, a gamified quiz platform for enterprise training and employee engagement, using the **MEAN stack (MongoDB, Express.js, Angular, Node.js)**.
- Implemented **real-time functionality using Socket.io**, enabling instant updates and improving user engagement and collaboration.

EDUCATION

Master of Science in Computer Applications (M.C.A) – Pondicherry University, Puducherry | 2014–2017 | GPA: 7.6/10

Bachelor of Science in Computer Science – St. Xavier College, Ranchi | 2010–2013 | GPA: 7.28/10