

# CHITRANK TAK

+91 9610742253 ◊ Jaipur, Rajasthan

[cttak365@gmail.com](mailto:cttak365@gmail.com) [linkedin.com/chitrink-tak](https://linkedin.com/chitrink-tak) [github.com/chitrank123](https://github.com/chitrank123)

## PROFESSIONAL SUMMARY

Results-oriented Software Engineer with 3.5 years of experience in full-stack development and Agentic AI Architecture. Specializes in building high-performance systems using Python (FastAPI) and orchestrating Multi-Agent workflows using LangGraph. Proficient in deploying scalable microservices on AWS (EC2/CloudFront) and optimizing RAG pipelines. Proven track record of reducing cloud costs by 40% and modernizing legacy infrastructure.

## TECHNICAL SKILLS

<b>AI Architecture</b>	LangGraph, Multi-Agent Systems, RAG Pipelines, yt-dlp
<b>GenAI Tools</b>	Groq API, LangChain, HuggingFace, OpenAI
<b>Backend</b>	Python (Async/Await), FastAPI, Django, Express.js, WebSockets
<b>Databases</b>	PostgreSQL (pgvector, Asyncpg), MongoDB, Supabase, Redis
<b>Cloud &amp; DevOps</b>	AWS (EC2, CloudFront, Lambda, S3), Docker Compose, Linux, CI/CD
<b>Frontend</b>	React.js, React Native, Streamlit, JavaScript (ES6+)

## EXPERIENCE

<b>Software Engineer</b> Acuvisor Insurance Brokers	Sep 2023 - Present <i>Jaipur, Rajasthan</i>
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- GenAI Leadership:** Spearheaded the development of a proprietary POC chatbot using LangChain and open-source models, enabling instant internal querying of insurance policies.
- API Architecture:** Redesigned core API integrations for insurance products, automating key workflows that reduced manual processing time by 40% and improved data accuracy.
- Infrastructure Optimization:** Led AWS cost management initiatives by auditing resource usage and implementing right-sizing strategies, achieving a significant reduction in monthly cloud expenses without compromising uptime.
- Internal Tools:** Engineered a process automation tool using Streamlit and Pandas for timesheet management, which increased productivity tracking efficiency by 50%.
- Performance Tuning:** Optimized high-traffic Django backend modules, resulting in a 25% improvement in API response latency across the platform.

<b>Software Developer Trainee</b> Acuvisor Insurance Brokers	Jan 2023 - Aug 2023 <i>Jaipur, Rajasthan</i>
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- Partner Integration:** Accelerated the onboarding speed of new insurance partners by 35% through the implementation of streamlined, reusable API integration patterns in Django.
- Real-Time Systems:** Integrated WebSocket principles (Socket.io) to enable real-time dashboard updates for field agents, successfully reducing data synchronization lags by 40%.
- Production Support:** Collaborated directly with business stakeholders to resolve critical technical integration issues, maintaining a 90% resolution rate within strict SLA timelines.

<b>Backend Developer Intern</b> Acuvisor Insurance Brokers	Jul 2022 - Jan 2023 <i>Jaipur, Rajasthan</i>
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- Codebase Refactoring:** Evaluated and optimized existing source code for better modularity and functionality, reducing technical debt for future features.
- Database Management:** Handled core database operations and schema designs using MySQL and MongoDB, ensuring data consistency during migration phases.

## KEY PROJECTS

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### TubeMind Pro - Agentic AI Video Analysis Engine

*Live URL: [tubemind-pro.web.app](https://tubemind-pro.web.app)*

*FastAPI, LangGraph, AWS, Docker*

- **Cloud Infrastructure (AWS):** Deployed containerized microservices using **Docker Compose** on **AWS EC2**. Configured **AWS CloudFront** for secure content delivery and engineered custom middleware to handle complex CORS preflight requests across distributed origins.
- **Robust Data Pipeline:** Developed a fail-safe transcript extraction system using **YouTubeTranscriptApi** with an automated **yt-dlp fallback**. Implemented cookie-based authentication injection to bypass bot detection and IP blocking on cloud servers.
- **Agentic Workflow:** Built a stateful decision-making engine using **LangGraph**, allowing the system to intelligently switch between full-video summarization and timestamp-specific retrieval based on user intent.
- **High-Performance Stack:** Integrated **Groq API** (LPU) for sub-second LLM inference and **pgvector** for hybrid search, enabling real-time "Chat with Video" capabilities.

### Business Reporting Mobile App

*Full-lifecycle development of a production mobile app for field data collection.*

*React Native, Express.js, MongoDB*

- Digitized field reporting, streamlining assessments and enabling real-time data syncing to on-prem servers.

### Timesheet Leave Management System

*Built an internal HR tool to automate attendance tracking.*

*Streamlit, Python*

- Automated log parsing and leave approvals, improving HR operational efficiency by 40%.

## EDUCATION & CERTIFICATIONS

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### Bachelors of Technology, Rajasthan Technical University

2019 - 2023

*Aggregate GPA: 8.5*

**Certifications:** Agile Project Management (Atlassian) · Docker Foundations · Python for Data Analysis