Krishna Tripathi

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EDUCATION

Indian Institute of Information Technology, Nagpur   Dec 2021 – May 2025
B.Tech in Computer Science and Engineering   *Nagpur, India*

TECHNICAL SKILLS

Languages: C, C++, JavaScript, TypeScript, Go, Python, Java

Frameworks & Tools: ReactJS, Node.js/ExpressJS, EchoLabstack (Go), TailwindCSS, Git, Docker, PostgreSQL, YugabyteDB, MongoDB, Python (Pandas, NumPy), SQL, BigQuery

EXPERIENCE

YugabyteDB   Sept 2024 - Present
Software Engineer Intern → Software Engineer I   *Bengaluru, India*
- **Integrated YugabyteDB embedding store into LangChain4j**, enabling vector similarity search with HNSW indexing and **reducing query latency by 15%**. (commit — docs)
- **Implemented plpython extension** in YugabyteDB, enabling in-database Python execution for **500+ vector operations per second** while **improving data security by 60%** by containing sensitive operations within the database.
- **Engineered Copilot for Voyager** using LangGraph, Python, and MCP with RAG architecture, **reducing migration setup time by 60%** for **100+ users** via conversational AI assistance and automated documentation updates.
- **Designed xCluster backend services** (Go) and UI, improving data resiliency by **40%** and optimizing DR node selection, reducing response time from **450ms to 120ms**.
- **Integrated lag metrics in C++** for Prometheus and UI visualization, optimizing APIs to improve response times by **35%**.
- **Optimized Go test pipelines** using Jenkins and Groovy scripts, running tests pre-deployment instead of on every commit, **reducing CI/CD runtime by 40%** and saving **3+ hours daily** in build times.
- **Architected data pipelines** using TypeScript/Go on Cloud Run, processing growth metrics and GCS data through MadKudu for lead scoring, syncing to Salesforce CRM and BigQuery, **improving sales operations by 45%**.

Zluri   Aug 2024 - Sept 2024
Software Engineer Intern   *Bengaluru, India*

- **Resolved 13+ critical bugs** using JavaScript/Node.js and MongoDB, **created testing framework** with QA dashboards, improving system reliability by **20%**, query performance by **30%**, and test coverage by **20%**.

PROJECTS

CineSphere: Movie Discovery Platform   April 2024 – Present
ReactJS, Node.js, YugabyteDB, Sequelize, Docker, GitHub Actions, TailwindCSS, Redux Toolkit   SOURCE CODE | LIVE DEMO

- **Integrated YugabyteDB with Sequelize ORM and SSL**, ensuring **99.9% uptime** for **100+ MAU** and accelerating queries by **40%**.
- **Configured intelligent caching** via GitHub Actions, reducing API costs by **75%** and page load from **3.2s to 1.8s**. **Deployed JWT** refresh token rotation with HTTP-only cookies for **zero XSS vulnerability**.
- **Engineered features**: Graph-based social network (BFS), rich-text editor (DOMPurify), lazy loading, Framer Motion animations, and serverless Vercel deployment, **decreasing page load by 450ms** and improving perceived performance by **25%**.

YB Voyager Copilot: AI-Powered Database Migration Assistant   Jan 2025 – Present
LangGraph, FastAPI, React/Next.js, Python, MCP, Docker, YugabyteDB, PostgreSQL, RAG   DOCKER HUB | ARCHITECTURE | DEMO

- **Architected AI-powered migration copilot** using LangGraph multi-agent system (3 agents) with MCP integration, **reducing migration setup time by 60%** for **100+ users** via conversational guidance.
- **Implemented 3-tier RAG architecture** with pgvector on YugabyteDB, achieving **95%+ accuracy** in Q&A with automated documentation updates, **improving response relevance by 40%**.
- **Built microservices architecture** with 5 Docker containers, FastAPI REST API, React/Next.js frontend, and Go-based MCP server integration, **improving migration success rate by 35%** and **reducing deployment time by 45%**.
- **Automated CI/CD pipeline** with GitHub Actions for building and publishing Docker images to Docker Hub, enabling seamless deployment and **reducing manual deployment time by 70%**.
- **Engineered PDF export** with Playwright, automated assessment with sizing recommendations, and Docker volume mounts, **enhancing user experience by 30%** and **reducing troubleshooting time by 50%**.

ACHIEVEMENTS

- Worked on "Best Use of AI" project in hackathon - YB Voyager Copilot. **Knight level (1994 - Top 2.58%)** on LeetCode with **1300+ problems solved** (430K+ users), **3-star (1735 - Top 4.2%)** on CodeChef (200K+ users). **3rd place** in Algorithmia Coding Contest, Tantrafiesta 2023. **Ranked 426th** in CodeChef Starters 113 Div 2 (11K+ participants).