Krishna Tripathi

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EDUCATION

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

TECHNICAL SKILLS

Languages: C, C++, JavaScript, TypeScript, Go, Python, Java
Frameworks: ReactJS, Node.js/ExpressJS, EchoLabstack (Go), TailwindCSS, Material UI
Tools: Git, Docker, Postman, VS Code, PostgreSQL, YugabyteDB, MongoDB
Coursework: Operating Systems, Computer Networks, DBMS, DSA, Distributed Systems, Cryptography

EXPERIENCE

YugabyteDB   Sept 2024 - Present
Software Engineer Intern → Software Engineer I   *Bengaluru, India*

- **Contributed YugabyteDB embedding store integration** to **LangChain4j** (commit — docs), implementing vector similarity search with HNSW indexing, pgvector support, and HikariCP connection pooling for AI/ML applications.
- **Integrated plpython extension** in YugabyteDB to execute Python code within the database, enabling direct embedding generation and storage for vector operations without external dependencies.
- **Built Copilot for Voyager** (DB migration tool) using LangGraph, Python, and MCP, implementing RAG architecture for conversational migration assistance with automated cron jobs for real-time documentation updates.
- **Developed yugabyted UI for Voyager** (open-source), building end-to-end migration workflow covering assessment, schema conversion, data migration, and verification steps for seamless database transitions.
- 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%**.
- **Automated 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.
- **Built web scraping pipeline** using TypeScript and Cheerio on Cloud Run Functions (scheduled every 3 days), extracting growth metrics and pushing to BigQuery with Looker Studio dashboards for data visualization and analytics.
- **Built automated data pipeline** using Go on Cloud Run Jobs (scheduled daily), processing GCS bucket data through MadKudu for lead scoring and account creation, syncing to Salesforce, **streamlining sales operations by 45%**.

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

- **Fixed 13+ critical bugs** using JavaScript/Node.js and MongoDB, built automated API testing framework with monitoring dashboards, improving system reliability by **20%**, query performance by **30%**, and test coverage by **20%**. Collaborated with QA on CI/CD pipelines.

PROJECTS

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

- **Migrated from MongoDB to YugabyteDB** (distributed PostgreSQL) with Sequelize ORM, connection pooling, and SSL authentication, achieving **99.9% uptime**, serving **1000+ MAU**, and **40% faster queries**.
- **Built automated caching** via GitHub Actions (3x daily TMDB sync), reducing API costs by **75%** and page load from **3.2s to 1.8s**. Implemented JWT refresh token rotation with HTTP-only cookies for **zero XSS vulnerability**.
- **Engineered features**: Graph-based social network (BFS for friend recommendations), rich-text editor (DOMPurify XSS sanitization), serverless Vercel deployment with CI/CD.
- **Enhanced UI/UX**: Canvas-based dominant color extraction for dynamic theming, lazy loading, Framer Motion animations, axios interceptors, achieving **Lighthouse 95+** and **30% engagement boost**.

Open Threads Reminder: AI-Powered Slack Bot   July 2024 – Present
VertexAI, Slack API, Go, Python, ReactJS, PostgreSQL, GCP   SOURCE CODE | DEMO

- **Built enterprise Slack agent** using VertexAI for intelligent thread classification and RAG retrieval system integrating GitHub/JIRA/docs for duplicate detection, achieving **90%+ confidence scores** and **preventing 95% of critical bugs from falling through cracks**.
- **Deployed full-stack solution on GCP** with Go backend, React dashboard, and PostgreSQL, **reducing incident response time by 50%** through automated stakeholder summaries and ticket tracking.

ACHIEVEMENTS

- **Knight level (1944 - Top 5.8%)** on LeetCode (430K+ users), **3-star (1735 - Top 4.2%)** on CodeChef (200K+ users).
- **3rd place** in Algorithmia Coding Contest, Tantrafiesta 2023, IIIT Nagpur. **Ranked 426th** in CodeChef Starters 113 Div 2 (11K+ participants).