

REDDY HARSHA VARDHAN KOLLA

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EDUCATION

Master of Science in Computer Science

Aug 2023 – May 2025

Saint Louis University, USA

Coursework: Algorithms, Database Management Systems, Principles of Software Development, Web Development, Computer Networks, Applied Machine Learning, Predictive Modeling, Cloud Native Application

TECHNICAL SKILLS

Programming	: Python, C, C++, Java, JavaScript, TypeScript, C#
Web and Frameworks	: HTML, Bootstrap, CSS, ReactJS, Redux, NodeJS, Express JS, Microservices, Rest APIs
Databases and Cloud	: MySQL, NoSQL-MongoDB, AWS
Libraries and Tools	: NumPy, Pandas, TensorFlow, Scikit-Learn, Matplotlib, NLTK
Platforms and Tools	: Windows OS, Linux, Ubuntu, Visual Studio
Other Concepts	: Object Oriented Programming, Software Testing, Debugging, Design Patterns, Docker, Hive Artificial Intelligence, Deep Learning, Natural Language Processing, Hadoop, Apache Spark

EXPERIENCE

Software Developer Intern | Metis Analytics | United States

Feb 2025 - Present

- **Tools4Logistics**: Developed an intelligent logistics platform using MERN stack and Groq LLM, integrating reinforcement learning for optimal routing and resource use. Built a secure, Firebase-powered customer portal with real-time data and multi-method auth (Google, Email). Achieved 85% faster decisions, 93% predictive accuracy, and 75% reduction in supply chain issues.
- **Prepr AI**: Engineered a dynamic disaster response platform using SDLC best practices with Next.js, React, REST APIs, and Stripe integration automating scenario generation and reducing preparation time by 85%, while improving multi-agency coordination efficiency by 90%.
- Built a scalable cloud infrastructure with AWS EC2, App Runner, Cognito, and Docker, and implemented a credit-based Stripe subscription system using Prisma ORM, PostgreSQL, and real-time webhooks-enhanced with Grafana analytics and a Tailwind CSS-powered user portal.
- **Founders Lounge**: Implemented Firebase Auth, Firestone NoSQL DB, and Cloud Storage to architect a secure, real-time backend for user management, dynamic data handling, and media storage—leveraging client SDKs and Firebase rules for robust access control.
- Integrated Stripe API for subscription-based payments with webhooks for billing, and set up local emulators (Auth, Firestone, Storage) to simulate cloud services—streamlining CI/CD and cutting bugs by 70% following Agile methodologies.

Data Management Team Lead | Saint Louis University

Aug 2024 - Dec 2024

- Led a dedicated team of 5 data specialists to develop automated data pipelines and real-time Power BI dashboards, reducing manual reporting efforts by 80% and boosting data accessibility across departments.
- Improved data accuracy by 95% through end-to-end integration, SQL/Python-driven quality assurance, and workflow optimization ensuring secure and compliant data management practices.

Data Engineer | Attorney Office | India

June 2022- July 2023

- Led the development of real-time Power BI dashboards integrating SQL and GIS crime data, enabling law enforcement to identify high-risk zones where 70% of crimes occurred—optimizing patrol routes and improving public safety.
- Structured complex crime datasets using SQL and Python to train an intelligent chatbot for legal queries and pattern recognition, enhancing model accuracy and enabling automated insights for law enforcement use.

KEY PROJECTS

Personal Finance Management Application | HTML/CSS | JavaScript | Node.js | MongoDB | Postman | GitHub

- Developed a full-stack web application using Node.js, MongoDB, and JavaScript, enabling users to securely track transactions, manage accounts, and analyze spending patterns with real-time updates and authentication.
- Integrated RESTful APIs and tested endpoints using Postman, ensuring robust backend functionality and seamless frontend interaction; version-controlled the codebase using GitHub for team collaboration and CI/CD integration readiness.

Enterprise Financial Transaction Platform | Spring Boot | Node.js | PostgreSQL | Docker | React | Firebase Auth

- Developed a secure, enterprise-grade financial platform enabling real-time transactions, fraud detection, and double-entry accounting to ensure financial integrity and compliance. Achieved 99.99% uptime with a robust audit logging system for full operational traceability.
- Implemented scalable microservice architecture using Docker containers and orchestrated asynchronous message flows with Apache Kafka, allowing the platform to handle high-throughput banking operations without bottlenecks. Optimized PostgreSQL for transactional consistency and fault-tolerant replication, resulting in seamless performance under load testing with 10,000+ concurrent operations.

Intelligent Real-Time Fraud Detection Engine Node.js | Python | GPT | Kafka | PostgreSQL | Docker | Firebase

- Architected and deployed a real-time transaction monitoring platform that processes high-throughput financial data streams using event-driven microservices and stateless authentication, ensuring secure, scalable, and resilient system operations across distributed environments.
- Built and integrated an AI-powered fraud detection pipeline that leverages supervised machine learning for anomaly classification and GPT-4 for generating contextual risk explanations, automating decision support and reducing manual investigation time by over 60%.
- Developed an interactive risk analytics dashboard with live transaction tracking, AI-insight rendering, and audit reporting capabilities, enabling fraud analysts to act on flagged transactions in real time with full visibility into detection rationale and response history.

CERTIFICATIONS & LEADERSHIP

AWS Certified Cloud Practitioner

Feb 2025

Agent force Specialist

May 2025

Core Committee Member, Leo Club of VIT University

June 2021 -July 2022