PRANAI SAI REDDY KALVA

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EDUCATION

The University of Texas at Arlington — 2023 - 2025
Master of Science in Computer Science

Sathyabama Institute of Science and Technology — 2018 - 2022
Bachelor of Engineering in Computer Science

SKILLS

Programming: C, C++, Java, Python, TypeScript, JavaScript, HTML, SQL

Frameworks & Tools: React, Redux, Spring Boot, Node.js, Express.js, Tailwind CSS, REST, Git, JIRA

Databases & Cloud: MongoDB, MySQL, Microsoft Azure, Amazon Web Services (AWS)

Certifications: AWS Certified Solutions Architect – Associate

EXPERIENCE

Software Engineer (TATA ELXSI) – Hyderabad, India — Aug 2021 – July 2023

- **Automatic Train Operation (ATO):** Designed and implemented APIs to automate train control systems, improving safety and operational efficiency. Orchestrated scalable API development using Node.js, Express.js, and PostgreSQL, reducing response latency by **35%**. Integrated JWT-based authentication for secure internal communication. Leveraged Docker for consistent deployment and optimized CI/CD pipelines, accelerating release cycles by **40%**.
- **Locomotive Exchange Application (LXA):** Built a high-availability data exchange platform to synchronize locomotive system data across regions. Spearheaded real-time communication microservices using Node.js, Apache Kafka, and Redis Pub/Sub, achieving **99.9% uptime**. Architected MongoDB-based high-throughput storage and implemented rate-limiting middleware, strengthening API security.
- **Trip Optimizer:** Modernized train trip optimization software to enhance fuel efficiency and route planning. Refactored legacy systems into TypeScript and modern JavaScript standards, cutting runtime bugs by **50%**. Migrated monitoring dashboards to React.js with Chart.js visualizations, improving diagnostic efficiency by **30%**. Optimized SQL (Structured Query Language) and NoSQL queries for **2x faster** data retrieval.

PROJECTS

NetflixGPT – AI-Enhanced Movie Discovery Platform (React, Redux, Firebase, Tailwind CSS)

Developed a full-stack movie streaming application inspired by Netflix, integrating a GPT-powered natural language search for personalized recommendations.

- Built with React and Redux for scalable state management and seamless navigation.
- Implemented secure authentication with email/password and Google Sign-In.
- Designed shimmer loading effects for better perceived performance.

DevTinder – Developer Networking Platform (React, Express.js, MongoDB, Amazon Web Services (AWS))
Frontend | Backend

Created a Tinder-style full-stack platform for developers to match, chat, and collaborate.

- Architected secure authentication with JWT and HTTP-only cookies.
- Developed real-time chat using Socket.io with typing indicators and file sharing.
- Designed responsive UI with Tailwind CSS and DaisyUI; deployed on AWS EC2 for scalability.