Akshay Penmatsa

214-603-5396 | akshaypenmatsa@gmail.com | LinkedIn | GitHub | Leetcode

EDUCATION

The University of Texas at Dallas   (GPA 3.8/4.0) Richardson, TX
Master of Science in Information Technology   *August 2023 – December 2024*

Manipal Institute of Technology   Karnataka, India
Bachelor of Technology in Computer Science   *Aug. 2016 – May 2020*

EXPERIENCE

Software Engineer Intern   August 2024 – December 2024
Insight Global   *Dallas, TX*
- Built a React UI for visual AWS infrastructure design with drag-and-drop workflow, achieving 200ms Interaction to Next Paint (INP) via React optimizations. User testing showed a 40% faster workflow compared to CLI workflow
- Automated WAF-aligned Terraform modules for EKS/SQL Server with AWS CodePipeline CI/CD, cutting deployment timelines from 2 weeks to 2 days through pre-certified blueprints and AWS Glue ETL data pipelines

Software Development Engineer   November 2021 – August 2023
FourKites, Inc.   *Chennai, India*
- Developed React-TypeScript micro frontend features for a supply chain platform handling 3M+ daily shipment
- Optimized render of 1M+ records using windowing and lazy loading, reducing DOM load-time by 40%(FCP 1.5s)
- Migrated state management to Redux, improving consistency and enabling a scalable application architecture
- Reduced API latency 30% via AWS API Gateway + Lambda migration, scaling serverless to 5K+ peak requests.
- Engineered 10+ SQL scripts to resolve data inconsistencies, improving data integrity for shipment tracking
- Developed REST APIs (Python/Flask) for saved user filters, reducing re-creation time by 90% via AWS Lambda
- Collaborated with Product/UI teams to meet customer needs, modernizing the application with new functionality
- Automated UI/API testing with Playwright and Jenkins, collaborating with QA teams and implemented TDD with Jest/React Testing Library to achieve 90% test coverage and reduce production bugs by 40%

Software Development Engineer   January 2021 – November 2021
iSpace, Inc.   *Hyderabad, India*
- Built client-specific pages for Korn Ferry's platform, enhancing user satisfaction using React and custom hooks
- Partnered with senior devs to implement scalable REST APIs in Java, improving system performance by 20%

PROJECTS

Distributed Key-Value Store | *Python, TCP/IP, Multithreading, Streams*   September 2024 – November 2024
- Built a Redis-like server adhering to the RESP specification, supporting commands like SET, GET, and INFO
- Achieved 90% parity with Redis v7.0 on core commands, validated via redis-cli and custom test suites

Serverless Portfolio Website | *AWS, Terraform, GitHub Actions*   July 2024 – August 2024
- Hosted a static website on AWS S3 and CloudFront, reducing latency by 40% via CDN caching
- Implemented a serverless visitor counter using Lambda@Edge and DynamoDB
- Automated deployments with CI/CD pipelines, cutting manual effort by 80%

SPED AI Assistant | *React, Python, LangChain, Fast API, MongoDB, FAISS, AWS*   June 2024 – July 2024
- Engineered an AI agent, with React front end and integrated LangChain's RAG pipeline and FAISS for vector search, boosting answer accuracy by 30% across PDF/Web scraped documents
- Implemented AWS Cognito authentication with hashing and JWT handling

EcoChat Insights | *React, Node.js, MySQL, MongoDB*   October 2023 – September 2023
- Built a chatbot-powered React app using OpenAI for querying an eco-friendly car database
- Designed efficient APIs for seamless frontend-database interaction

TECHNICAL SKILLS

Languages: JavaScript, Java, Python, SQL, R, HTML/CSS
Frameworks: React, Redux, Angular, Next.js, Node.js, GraphQL, Flask, JUnit, Material-UI, FastAPI
Certificates: AWS Solution Architect Associate
Developer Tools: Git, Docker, AWS, Jenkins, Webpack, Docker, Kubernetes, Postman, Jira, Playwright, Figma