

# Akshay Penmatsa

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## EDUCATION

### The University of Texas at Dallas

Master of Science in Information Technology, (GPA 3.8/4.0)

Relevant Coursework: Application Development, Advanced Algorithms, AI/ML, UX Design, Cloud Computing

Richardson, TX

August 2023 – December 2024

### Manipal Institute of Technology

Bachelor of Technology in Computer Science

Karnataka, India

Aug. 2016 – July 2020

## EXPERIENCE

### Software Development Engineer

November 2021 – August 2023

FourKites, Inc.

Chennai, India

- Engineered a scalable workspace application using **React** and **TypeScript**, achieving a 2s LCP score and an improved user experience for over 60,000 users by implementing virtualization to handle 1M+ shipment records
- Created REST APIs with 5ms latency using **Java** and **Spring** (MVC, JPA) enabling users to save and reuse filters
- Reduced **JavaScript** bundle size by 400KB and page load time by 45% using frontend optimization techniques, resulting in measurable improvements in user engagement metrics
- Designed circuit breaker using **AWS Lambda** function and **Error Queue** to monitor downstream systems, ensuring real-time error detection and reducing debugging time by 40%, increasing operational efficiency
- Reduced monthly EC2 costs by 25% by implementing **AWS EC2** auto-scaling based on CPU utilization
- Refactored state management by migrating XState to **Redux**, improving consistency and maintainability
- Collaborated with **UX design** team to create Figma **wireframes**, that boosted customer task success rate by 15%
- Automated UI/API testing with **Selenium** and Jenkins in **CI/CD** pipelines, collaborating with QA teams and spearheading TDD with **Jest** to enhance software quality and achieve 85% test coverage

### Software Development Engineer

January 2021 – November 2021

iSpace, Inc.

Hyderabad, India

- Built client-specific quiz dashboards using React, **JavaScript**, and **CSS** addressing 15+ user pain points identified through weekly feedback loops, increasing customer satisfaction scores by 30%
- Implemented scalable REST APIs in **Java** for authentication, using **AWS DynamoDB** for secure token storage

## LEADERSHIP EXPERIENCE

### Peer Tutor at The University of Texas at Dallas (UTD)

August 2024 – December 2024

- Conducted group sessions to provide comprehensive assistance to 100+ students for programming courses

### Team Lead, Capstone Project with Insight Global

August 2024 – November 2024

- Led a 5-person team to collaborate and build an enterprise cloud deployment automation tool for Insight Global

## PROJECTS

### Enterprise Cloud Deployment Framework | AWS, Terraform, Python

August 2024 – December 2024

- Reduced AWS EKS/S3 deployment time from 2 weeks to 2 days through automation using Terraform (IaC), AWS CodePipeline (CI/CD) and AWS Glue (ETL)

### SPED AI Assistant | React, Python, LangChain, FastAPI, MongoDB, FAISS, AWS

May 2024 – July 2024

- Architected a RAG pipeline using LangChain, MongoDB, and FAISS, to process and extract insights from unstructured PDF and web data sources, reducing manual effort in information gathering and analysis

### Covid-19 detection using Convolution Neural Networks | Sklearn, TensorFlow

March 2020 – July 2020

- Built deep learning models (InceptionV3, AlexNet) for COVID-19 detection using chest X-ray images
- Trained deep learning models on a multi-class chest X-ray dataset, achieving 97.8% validation accuracy.

## TECHNICAL SKILLS

**Languages:** JavaScript, Java, Python, SQL, R, TypeScript

**Frameworks & Libraries:** React, Redux, Next.js, Spring Boot, Django, GraphQL, LangChain, Scikit-learn

**Databases:** SQL Server, PostgreSQL, MySQL, MongoDB

**Developer Tools:** Git, Docker, Azure DevOps, Jenkins, Webpack, Kubernetes, Postman, Jira, Selenium, Figma

**Certificates:** AWS Solution Architect Associate (ID: 120a7117f6c84c50bee019f345482f8f)