

Harsh Jitendrakumar Rao

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EDUCATION

Santa Clara University

Masters of Science, Computer Science

Santa Clara, CA

September 2024 – June 2026

Indian Institute of Information Technology

Bachelors of Technology, Computer Science

India

September 2020 – July 2024

EXPERIENCE

Software Developer Intern

Creotosaurus

January 2024 – July 2024

India

- Collaborated with the team to develop and deploy a computer vision model that identified objects with 95% accuracy, enabling real-time object recognition within the augmented reality application, a key feature for user engagement.
- Analyzed data on entity count, shade detection, activity patterns and enhanced image segmentation algorithms (YOLOv8).
- Migrated 1 of 3 Alteryx workflows to a Lambda function using Python (Boto3, Connectorx, Pandas), S3, and Redshift to enable independence from Alteryx, resulting in annual savings of \$8,000 per license.
- Engineered MFT-to-S3 data transfer pipelines utilizing AWS Lambda, cutting data transfer duration and facilitating real-time Redshift partition updates; automated infrastructure using Terraform for S3 event notifications.

Student Researcher

Indian Institute of Information Technology

July 2023 – January 2024

India

- Collaborated with a research team to design and implement a molecular diffusion model for graph-based analysis, contributing to a 4% improvement in trajectory prediction accuracy.
- Leveraged NVIDIA HGX supercomputer GPU cluster, reducing computational time while gaining expertise in high-performance computing and large-scale machine learning deployment.
- Achieved a 95% success rate in predicting molecular properties by fine-tuning parallelised Graph Attention Networks (GATs), exceeding expectations and contributing to project's success.

Software Engineering Intern

JIO

April 2023 – July 2023

India

- Implemented Apache Kafka as an indexer in Jenkins Logstash plugin with java, routing over 10,000 daily Jenkins build logs directly to Elasticsearch Kibana, enhancing CI/CD reliability and monitoring.
- Adapted a core rebalancer Python script, which allocates OpenStack Nova compute to Jenkins build nodes by adjusting OpenStack quota, to run as a daemon, boosting responsiveness by 50%.
- Created a full-stack Flask application on top of rebalancer to monitor 5000 Jenkins build notes, manage OpenStack quota requests, track project-specific rebalancer errors and integrated with a Grafana dashboard for critical infrastructure monitoring.

PROJECTS

Loan Broker | .NET, AWS, Docker, Grafana, Prometheus

- Architected a distributed microservices system using AWS, .NET 8, Docker, and Enterprise Integration Patterns to enable seamless communication between loan brokers, credit bureaus, and banking services.
- Enhanced loan processing system observability via OpenTelemetry integration, enabling identification of performance bottlenecks within the loan origination workflow and resulting in improvement in loan approval times.
- Implemented fault-tolerant workflows with automated retries, leveraging ServicePulse diagnostics to identify and resolve messaging errors within the first hour of occurrence.
- Deployed containerized infrastructure with Docker Compose, integrating LocalStack to mock AWS services for robust testing and scalable deployments. Configured monitoring dashboards in Grafana and Prometheus to track key metrics, including message processing time, critical failures, and service performance.

Fitness App | TensorFlow, Polygon, Flutter and Postman, Metamask

- Built a fitness app that leverages machine learning to suggest personalized workouts based on user data.
- Designed a data aggregation framework for iOS and Android fitness trackers, providing insights that directly influenced user engagement feature improvements.
- Launched ERC-721 standard NFT rewards program on the Polygon blockchain, incentivizing consistent app engagement.
- Created leader board, social sharing and messaging functionalities to share data and compete.

TECHNICAL SKILLS

Skills: Full Stack, Android, IOS, Machine Learning, Data Science, Game Development, Data Base

Languages: Java, Python, C/C++, SQL, JavaScript, C#, Dart, GO

Frameworks: .NET, React, Node.js, Flask, Flutter, Unity, Unreal, FastAPI