

YASH SHAH

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Education

Arizona State University

Master of Computer Software Engineering – Minor Data Science

Aug 2024 – May 2026

4/4 CGPA

Charotar University of Science and Technology

Bachelor of Technology in Computer Science and Engineering

Aug 2020 – May 2024

9.54/10 CGPA

Work Experience

Amazon, Seattle, WA

May 2025 – Aug 2025

Software Development Engineer Intern

- Engineered improvements to AWS Lambda's Proactive Spin Up (PSU) system, **reducing Top of the Hour** fleet load **spikes by 60%** and strengthening large-scale system reliability.
- Built observability pipelines and CloudWatch dashboards to monitor fleet health, improving reliability and capacity trends across distributed **serverless infrastructure**.
- Engineered data transformation and model pipelines to optimize flow of data between system inputs and outputs, improving accuracy, maintainability, and integration across Lambda's distributed architecture.
- Debugged production issues** in distributed Lambda infrastructure, contributing to **on-call readiness** and improving reliability across endpoints.

Kintu Designs, India

Jan 2024 – Apr 2024

Data Science and Machine Learning Intern

- Built a student feedback analysis platform processing 10K+ submissions, **reducing manual review time by 40%** and enabling instructors to identify curriculum gaps across courses within hours instead of weeks.
- Designed and trained Logistic Regression and Decision Tree classifiers on NLP-preprocessed text (tokenization, lemmatization), **achieving 85%+ sentiment classification accuracy** and surfacing the top recurring themes per course cohort.

Brainy Beams Technologies Ltd, India

Jun 2023 – Sep 2023

Data Science Intern

- Built an end-to-end diamond price prediction pipeline, from EDA and feature engineering in Pandas/Matplotlib through ensemble model training, improving **prediction accuracy by 15%** and **achieving $R^2 = 0.92$** on held-out test data.
- Designed normalized relational schemas in MySQL/PostgreSQL and optimized analytical queries with indexing and query restructuring, **cutting execution time by 30%** and enabling the ML pipeline to ingest datasets 3× faster.

Technical Skills

Programming Languages: Python, Java, TypeScript, C, C++, Go, Rust, JavaScript

Databases: MySQL, MongoDB, Firebase, PostgreSQL, DynamoDB, Redis

Web and Software Development: React.js, Node.js, Next.js, Express.js, FastAPI, React Native, HTML/CSS

Cloud & Tools: AWS (Lambda, SageMaker, EC2, RDS), GCP, Docker, Kubernetes, Jenkins, Kafka, Git

Systems & Infrastructure: Linux/Unix, Distributed Systems, Scalability, Load Balancing, Caching, CDN Architecture, Fault Tolerance, High Availability, CI/CD Pipelines

Projects & Publications

ESP32-Based Battery Management System (ASU Affiliated Project)

- Designed a high-throughput BLE telemetry system processing **10K+ battery readings/day**, with a normalized relational schema and indexed queries reducing storage and compute overhead by **35%**.
- Engineered a resilient offline-first ingestion pipeline using local SQLite queues, batched sync, and idempotent APIs with per-record acknowledgments, ensuring fault-tolerant data delivery over unreliable network conditions.
- Implemented secure OTA firmware delivery with SHA-256 integrity verification, versioned release management, and cloud-hosted update distribution with structured logging and monitoring for reliability.

Unveiling Anomalies in Surveillance Videos via Transfer Learning | *IEEE Xplore, 2023*

- Conducted anomaly detection in surveillance videos by evaluating deep learning models including **DenseNet121**, **VGG16**, **VGG19**, and **ResNet50**, using TensorFlow, Keras, and PyTorch on the UCF Crime dataset.
- Demonstrated DenseNet121's superior performance, achieving a receiver operating characteristic area under the curve (**ROC-AUC**) **score of 0.85**, providing actionable insights for real-world video anomaly detection systems.