

Rishabh Shah

New Brunswick, NJ | rs2780@rutgers.edu | (848) 391-0484 | linkedin.com/in/rishabh-shah1 | github.com/RishiiShah | Portfolio

EDUCATION

Rutgers University – New Brunswick

M.S. in Computer Science, GPA: 3.83/4.0

Aug 2025 – May 2027

Graduate Student

University of Mumbai

B.Tech. in Artificial Intelligence & Data Science, CGPA: 7.76/10.0 (Indian scale)

Dec 2021 – Jun 2025

Mumbai, India

TECHNICAL SKILLS

Languages: Python, C++, Java, TypeScript, SQL, C

Frameworks & Tools: Django, Flask, Next.js, REST APIs, JWT Auth, Docker, Git, GitHub, GitHub Actions (CI/CD), Linux

Databases & Cloud: PostgreSQL, MySQL, MongoDB, AWS, Azure, Google Cloud Platform (GCP)

AI/ML & Computer Vision: TensorFlow, PyTorch, Scikit-learn, Keras, Pandas, NumPy, OpenCV, YOLO, OCR, ANPR

Coursework: Data Structures & Algorithms, Operating Systems Design, Intro to AI, Natural Language Processing, Database for Data Science, Massive Data Mining

PROFESSIONAL EXPERIENCE

Aaditya Technologies

Software Engineering Intern

Onsite – Mumbai, India

Jan 2025 – Jul 2025

- With 400ms+ queries degrading user-facing response times, restructured MySQL schemas and rewrote critical SQL paths in Python and Next.js, reducing average API latency by 22% tracked via structured application logs
- Replaced ad-hoc inter-module calls lacking auth validation by implementing JWT-authenticated REST APIs with role-based access control across 4 backend services, standardizing error handling and security
- Containerized all 4 services using Docker and built Git/GitHub managed deployment workflows on AWS, cutting deployments from manual multi-step configuration to repeatable single-command runs
- Owned end-to-end releases independently by the final quarter, coordinating with frontend and QA teams across backend APIs, web application, and dashboard modules for integration testing

Creative Line

Web Development Intern

Onsite – Mumbai, India

Jun 2024 – Sep 2024

- Refactored 7 tightly coupled components across 3 features to eliminate duplication, reducing per-file size by 70% and enabling faster iteration on new feature work
- Resolved frequent timeout and null-response issues by developing Next.js API routes with MySQL integration, caching, and error handling, backed through unit tests

TECHNICAL PROJECTS

Traffic Violation Detection & Automated Ticketing System

IEEE ICICIS 2025 | Scopus Index

github.com/RishiiShah/Traffic

- Closed the loop from detection to enforcement: system captures violation frames, extracts plate data, generates a formal challan with evidence on AWS S3, and notifies owners via Twilio SMS with zero manual intervention
- Evaluated YOLOv11x and YOLOv12x across nano to extra-large variants on a custom-labeled dataset, selecting YOLOv12x at 93.76% end-to-end accuracy with 97.56% vehicle classification and 93.26% helmet detection
- Developed license plate recognition using Groq Llama-4 Scout as vision-based OCR where traditional OCR failed on angled low-light plates, layering regex validation to reach 92.7% extraction accuracy

Synthetic Financial Time Series Generation via WGAN-GP

Scrivener Publishing 2026

- Designed a WGAN-GP generator with multi-head attention, dual TCN layers, stacked LSTMs, and GRU trained on Apple stock data using AdamW over 3000 epochs with log returns and hybrid scaling preprocessing
- Quantified synthetic data fidelity with Pearson and Spearman correlations above 0.80 and R-squared above 0.63 across Open, High, Low, Close, and Adjusted Close features
- Trained two identical downstream models on unseen test data, one on real data only (97.93% accuracy) and one on real + synthetic (98.83%), demonstrating generalization gains from augmentation in a data-scarce regime

JARVIS: Voice Assistant with Smart Home Automation

Journal of Technical Education 2025

github.com/RishiiShah/Jarvis

- Built a 4-module voice assistant on Raspberry Pi 3B+ using Groq-hosted LLaMA 3.1 8B for NLP query processing across task execution, math/reminders, LLM queries, and home automation
- Implemented wake word detection, spectral noise filtering, noise gating, and multi-threading for concurrent task handling with LLM guardrails filtering unsafe or private queries
- Engineered IoT backend using Azure IoT Hub to relay commands to Raspberry Pi GPIO pins for real-time appliance control, backed by a Django web interface for secure device management

Snap-Interview | AI Interview Practice Platform

Next.js, TypeScript, PostgreSQL, Prisma, Groq API, AWS S3, ElevenLabs, Better Auth

github.com/RishiiShah/SnapInterview

- Developed an end-to-end interview simulation platform with adaptive question progression, persona/difficulty-aware prompt composition, and streaming LLM responses for realistic practice sessions
- Designed an evaluation engine producing 0-100 scores with structured feedback across communication, technical depth, and clarity, with schema-enforced AI output to prevent malformed results
- Implemented a recording pipeline with presigned S3 uploads scoped to per-user key prefixes, CSRF protection, rate limiting on login/OTP/eval/upload endpoints, and a CI pipeline with lint, typecheck, unit, and e2e tests