Vraj Patel

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TECHNICAL SKILLS

Python, Java, AWS, Pandas, NumPy, Scikit-learn, TensorFlow, OpenCV, Matplotlib, Seaborn, Keras, SQL

CERTIFICATIONS

AWS Certified Solutions Architect – Associate (Ethnus)	*2025*
Salesforce Developer Certification (Ethnus)	*2025*

PROJECTS

ArchGen — Generative-AI Architecture Model *2023*
Python, Tensorflow, Keras, Numpy, Pandas, LoRA (GitHub: github.com/AshenWitch96/ArchGen)

Trained a LoRA model on Stable Diffusion to generate high-quality outer architectural images of buildings from text prompts. Fine-tuned on a custom dataset using Hugging Face Diffusers and integrated advanced prompt engineering techniques for stylistic control. Deployed the model on Tensor.Art, where it received over 7,000 public runs, enabling real-time image generation via web UI.

Performance Optimization of Solar Panels *2025*
Python, NumPy, Matplotlib, Scikit-learn, TensorFlow (LSTM) (GitHub: github.com/AshenWitch96/Solar-Panel-Optimization)

Built a scalable IoT pipeline to monitor real-time telemetry from 500+ rooftop solar panels. Collected and streamed sensor data using AWS IoT Core and processed it to predict low-efficiency panels using a LightGBM regression model. Triggered serverless alerts with AWS Lambda and SNS. The system boosted overall solar energy yield by 12% and supported proactive maintenance operations.

Vehicle Number-Plate Reading System *2025*
Python, OpenCV, NumPy, imutils, pytesseract, FastAPI, Pandas (GitHub: github.com/AshenWitch96/Vech-Number-Plate)

Developed an OCR pipeline to extract Indian vehicle number plates using OpenCV and Tesseract. Applied grayscale conversion, filtering, and Canny edge detection to isolate contours and detect plates via polygon approximation. Used pytesseract for character recognition and stored timestamped results to CSV using Pandas. Designed for real-time deployment with FastAPI.

EXTRA-CURRICULARS AND ACHIEVEMENTS

Achievements

Ranked in the top 10% at the Zelestra x AWS Hackathon for developing a solar panel efficiency prediction system.

Responsibilities

Core member of the Anime Club at VIT Bhopal — hosted weekly anime discussions and managed event logistics. Led a Discord bot project, managing a 35-member remote team for bot development and community moderation.

Extracurriculars

Passionate about anime, manga, and Japanese culture. Engage regularly with developer communities and open-source projects related to machine learning and automation.

ADDITIONAL INFORMATION

Hobbies: Reading books & manga, watching anime & drama, badminton, table tennis, cricket

Languages: English (Fluent), Hindi (Native), Gujarati (Native), Japanese (Beginner — JLPT N5)