

Satya Shah

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INTERNSHIPS:

-Machine Learning Intern, Sensegood Instruments Private Limited, Ahmedabad, India [\[link\]](#)

June 2022 – July 2022

- Built a predictive analytics solution that reduced ***pneumatic braking inspection costs by 20%*** for truck owners.
- Analyzed **36K+** sensor data points (**175 features**) to detect failures.
- Optimized a **LightGBM** model using **Optuna**, achieving **80% recall and 88% accuracy** through advanced preprocessing techniques, including **KNN Imputer**, **SMOTE-Tomek**, and **KS test**.
- Deployed an **end-to-end ML pipeline** from data ingestion to model evaluation with **Fast API**, **MongoDB**, **AWS (S3, EC2, ECR)**, and **GitHub Actions**.

-Computer Vision Intern, Technostacks Infotech Private Limited, Ahmedabad, India [\[link\]](#)

January 2023 – May 2023

- Developed a web app for ***CT-scan-based kidney tumour detection*** for a hospital using **transfer learning (VGG16 with Tensorflow/Keras)**, achieving **98% recall** and assisting doctors in the early diagnosis of kidney cancer for **500+ patients**.
- Built a complete ML pipeline from data ingestion to model evaluation using version control tools like **DVC**, **Dagshub**, and **MLFlow**.
- Preprocessed the images using Otsu's Binarization, Watershed segmentation, and Normalization. Handled class imbalance by **data augmentation**.
- Developed a user interface using **HTML**, **CSS**, **JavaScript**, **Flask** for routing, and **MongoDB** for storing patient records.
- Containerized the entire application using **Docker**. Deployed the app on **AWS** using **CI/CD** with **GitHub Actions**, **ECR**, and **EC2**.

PROJECTS:

-Data Talk: Query Without Code [\[link\]](#)

January 2025

- Enables users to connect their **local Neo4j Graph DB**, **SQL**, or **SQLite** databases and query them using basic ***English sentences without writing any queries***, reducing query-writing effort by **80%**.
- Uses **prompting techniques** for efficient query generation with **Langchain agents** for accurate responses.
- Deployed on **Streamlit**, offering a user-friendly **interface** for seamless database interactions.

-Chat summarizer by Fine-tuning [\[link\]](#)

March 2025

- Enhanced ***AI-driven chat summarization***, transforming ***lengthy conversations into clear, concise insights***.
- ***Fine-tuned Google Pegasus (CNN/Daily Mail)*** on **Samsum dataset**, optimizing for chat-based text summarization.
- Achieved high-quality performance and developed UI using **Flask**, **HTML**, **CSS**, and **JavaScript** for seamless user interaction.
- Exploring **quantization techniques like LoRA and QLoRA** for efficient model deployment.

-PEDIABOT AI For Pediatricians [\[link\]](#) [UTA'25 DATATHON WINNER]

April 2025

- Developed an AI-powered ***RAG***-based chatbot for ***peditricians***, offering instant, context-aware medical insights to support clinical decisions with an ***average response time under 3 seconds***.
- Integrated **Pinecone Vector Database**, **Hugging Face embeddings**, and **Groq's Mistral LLM**, enhancing retrieval accuracy and response quality.
- Containerized with the help of **Docker** and deployed the application on **Hugging Face Spaces** using **GitHub Actions (CI/CD)**, featuring a user-friendly interface with **HTML**, **CSS**, and **JavaScript**.

-AI MOCK Interview Agent (Voice Based) [\[link\]](#)

July 2025

- Developed a ***personalized AI-powered interview agent*** for real-time mock interviews based on resume & job description.
- Used **Eleven Labs API** for text-to-speech, **OpenAI API** for question generation and real-time feedback, **Google web-speech API** for transcription.
- Created wonderful UI using **Streamlit** with features like front camera, voice recording, and round-based selection (HR, Managerial, Technical, General).

TECHNICAL SKILLS:

Data Science/Machine Learning/ Deep Learning/ Computer Vision/NLP – Supervised Learning algorithms, Unsupervised Learning algorithms, statistics, Exploratory Data Analysis, ANN, CNN, RNN, Transformers

Programming languages - Python, HTML, CSS, SQL

Frameworks- Flask, Streamlit, Gradio, FastAPI, GitHub, Docker, Kubernetes, Langchain, LangGraph, Hugging Face, Crew AI, Ollama

Databases- MySQL, MongoDB, Pinecone, Neo4j, FAISS, Chroma DB

Data Visualization- Tableau, Excel

Python packages and Libraries- Scikit-Learn, TensorFlow, Keras, PyTorch, NumPy, Pandas, SciPy, Seaborn, Matplotlib, OpenCV, Optuna

EDUCATION:

-Bachelor of Technology (BTech), Computer Science,

August 2019- May 2023

School of Engineering and Applied Science, Ahmedabad University, Gujarat, India

-Masters of Science(MS), Computer Science,

August 2023- May 2025

University of Texas, Arlington, Texas, United States of America, GPA ([3.9/4.0](#))

-**Soft Skills:** Strong problem-solving skills, excellent written and verbal communication skills, adaptability, Teamwork, critical thinking, time management, and attention to detail

-**Kaggle Competition [\[link\]](#)**- Participated in a Kaggle competition on ***mushroom edibility prediction***, leveraging machine learning for binary classification of **1 million rows**. Achieved a ***top 25% leaderboard ranking*** among 2500 participants.