# Vraj Dobariya

+1 3412409035 | vdobariya@horizon.csueastbay.edu | Union City , California | LinkedIn | Portfolio | GitHub

## Key Skills

**Programming Languages:** Python, R, SQL, C, C++

**Databases & Vector Stores:** MySQL, MongoDB, ChromaDB(Large-Scale Data Processing)

**AI/ML Frameworks & Libraries:** Scikit-learn, XGBoost, PyTorch, TensorFlow, Keras, spaCy, Transformers & Diffusers (Hugging Face), LangChain, FastAPI, Streamlit

**MLOps & Deployment:** Docker, Kubernetes, CI/CD, AWS, Azure, MLflow, Linux

**AI/ML & Data Science Expertise:** Machine Learning, Deep Learning, Generative AI, AI Agents, Natural Language Processing, Model Fine Tuning, Model Evaluation, LLM, RAG

**Data Science & Analytics:** Hypothesis Testing, A/B Testing, EDA(Numpy, Pandas, Matplotlib, Seaborn), Time Series Analysis, Forecasting

**Core CS Skills:** Data Structures & Algorithms

## Professional Experience

**AtliQ Technologies Pvt. Ltd.** **Vadodara**

AI Intern (Internship) Dec 2024 - Mar 2025

- Led a team to develop two AI projects, driving communication with a cold storage firm and a healthcare company to define needs, completing a fruit freshness system and a Q&A tool using deep learning and generative AI.
- Spearheaded preprocessing of 16,000 fruit images and tuned a ResNet50 CNN, showcasing analytical skills to cut processing time by 30% and boost accuracy from 69.44% to 99.85%, earning recognition for impactful internship growth.
- Collaborated on a Streamlit-based healthcare AI tool, enhancing LLaMA 3 with RAG and retrieving PubMed data to deliver fast, evidence-based intermittent fasting insights for clinicians, improving decision-making efficiency.

**Skills:** PyTorch, Generative AI, ResNet, RAG, Hyperparameter Tuning

## Projects

**Intelligent Chatbot Using RAG and LLM** - **E-commerce** **Project Link**

[LLaMA 3.3 / Transformers / RAG / SQL / HuggingFace] Oct 2024 - Jan 2025

- Engineered a conversational chatbot leveraging Retrieval-Augmented Generation (RAG) with LLaMA 3.3 (Groq), enhancing user experience by approximately 60% and boosting revenue potential by 40% through tailored, context-aware interactions that improved customer engagement.
- Integrated semantic routing and real-time SQL queries using HuggingFace embeddings and ChromaDB, streamlining data retrieval processes and replacing inefficient filters and FAQs, which optimized system efficiency and reduced response times.

**RAG-Driven Research Tool** - **Real Estate** **Project Link**

[Langchain / Transformers / HuggingFace / LLM / FastAPI] Aug 2024 - Sep 2024

- Engineered a Streamlit-based web app with Retrieval-Augmented Generation (RAG), slashing LLM API costs by ~70% and research time by ~50% for real estate insights, delivering precise, URL-driven answers using LangChain's UnstructuredURLLoader tool.
- Spearheaded the integration of HuggingFace's all-MiniLM-L6-v2 embeddings and ChromaDB retrieval system, driving analytical efficiency and fostering teamwork to produce scalable, source-referenced outputs via Llama3 platform.
- Led communication with users to gather feedback and refine detailed requirements, showcasing leadership in deploying a cost-effective, high-impact tool that accelerates real estate decisions by ~50% with robust insights.

**Damage Detection Using Deep Learning** - **Automobile** **Project Link**

[PyTorch / CNN / Hyperparameter Tuning / CUDA / ResNet] Jun 2024 - Aug 2024

- Designed and implemented a CNN-based deep learning model leveraging transfer learning, boosting prediction accuracy from 57.74% (baseline) to 80.87% through EfficientNet and ResNet fine-tuning.
- Optimized model performance using hyperparameter tuning (dropout: 0.2, learning rate: 0.005) and regularization techniques, enhancing robustness and scalability while integrating OpenCV for advanced computer vision preprocessing, improving dataset quality by 15%.

**Credit Risk Predictor** - **Finance** **Project Link**

[Scikit-learn / XGBoost / Optuna / SMOTE Tomek / EDA] Apr 2024 - May 2024

- Developed a Logistic Regression model for credit risk assessment, achieving 93% accuracy and 94% recall by mitigating class imbalance with SMOTE Tomek, reducing false negatives by 15% and enabling precise loan default predictions.
- Enhanced model performance through Optuna-based hyperparameter optimization, delivering scalable creditworthiness ratings (scores: 300-900), improving decision-making efficiency for financial stakeholders by 25%.

## Education

**California State University, East Bay** **Hayward, USA**

Master of Science - Statistics Data Science Jan 2024 - Present

**Adani University** **Ahmedabad, India**

Bachelor of Technology - Information Technology Jun 2018 - Jul 2022