Dhruv Jitendra Limbani

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• dhruv-limbani-portfolio.streamlit.app

Education

Columbia University — New York City, US
MS in Computer Science, Machine Learning Track — Expected Dec 2025

SRM Institute of Science and Technology — Chennai, IN
B.Tech in Computer Science and Engineering, GPA: 9.79/10 — Sep 2020 - Jun 2024

Relevant Coursework

Data Structures and Algorithms, Operating Systems, Computer Networks, Database Management Systems, Machine Learning, Data Science, Artificial Intelligence

Skills

Programming Languages: C, C++, Python, SQL
Data Analysis and Visualization: Numpy, Pandas, Matplotlib, Seaborn
Machine Learning: Scikit-Learn, TensorFlow, PyTorch, OpenCV, NLTK
Web Development: Streamlit, FastAPI
Developer tools: Git, Visual Studio Code, Jupyter, Google Colab, MySQL Workbench

Professional Experience

Samsung R&D Institute — Bangalore, IN
Software Development Intern — May 2023 - Jul 2023

- Collaborated with the On-Device AI Solutions team to develop and train a RNN model for predicting user smartphone tasks from monthly smartphone usage data of 10 different apps
- Reconstructed one graph-based approach to log user activity patterns in form of sequential adjacency matrices
- Identified and communicated inefficiency and incompatibility of chosen approach to team, leading to valuable insights and process improvements

Samsung PRISM Research Intern — Jul 2022 - Feb 2023

- Partnered on Sensor based Mood Profiling system to detect emotion in real-time and developed two Android WearOS based apps using Java and Android studio for data collection and mood prediction
- Delivered lightweight TFLite model of Multi Layer Perceptron with 93.75% accuracy with an architecture of optimum set of sensors (Accelerometer, Gyroscope, Heart Rate)
- Presented and published the work at 2023 IEEE (CONECCT) and was honoured with Certificate of Excellence

Project Experience

NoCodeML: An End-to-End Platform for Data Analysis and ML Model Building [Website]

- Built a comprehensive no-code platform using Python and Streamlit, enabling end-to-end data analysis and model building, tested across 20+ diverse datasets for robustness and usability
- Implemented features for data cleaning, transformation, and exploratory data analysis with interactive visualizations, enabling efficient data exploration
- Streamlined model training and testing workflows with tools for train-test splitting, normalization, and encoding, reducing data preparation time by up to 50%.

Pediatric Pneumonia Detection from Chest X-ray Images

- Teamed up on designing a CNN model to diagnose pneumonia from chest X-ray images, achieving 95.97% accuracy.
- Mitigated class imbalance by leveraging a DCGAN to generate synthetic samples for one minority class
- Surpassed the performance of a fine-tuned VGG16 model by 2% in accuracy using a custom CNN on benchmark dataset

Financial Sentiment Analysis and Categorization

- Conducted extensive text preprocessing using techniques like tokenization, stopword removal, lemmatization, and n-gram analysis to enhance model's performance on financial datasets
- Evaluated multiple approaches, including traditional algorithms (Logistic Regression, SVM, Random Forest), deep neural networks, two RNN models (LSTM, BiLSTM), and transformers (BERT), to identify the optimal solution
- Achieved a peak accuracy of 90.5% on test data with Bidirectional LSTM for financial sentiment analysis

Academic and Extracurricular Achievements

- Class Topper Award at SRM Institute of Science and Technology
- Performance Based Scholarship for 1st Rank in department at SRM Institute of Science and Technology
- Vice Domain Leader of Machine Learning team at Think Digital Student Club at SRM
- 2nd runner up in BugOut (Debugging Competetion) at Datakon-2022, SRMIST
- SHE scholarship for being in top 1% in Gujarat State Higher Secondary Board Examination