

Nisarg Choudhary

+91 9294511772 nisarg6710@gmail.com LinkedIn GitHub Portfolio

PROFESSIONAL SUMMARY

Focused on building end-to-end Machine Learning systems across **NLP, Time-Series Forecasting, and Predictive Analytics**, with experience in deep learning, statistical modeling, model experimentation, and deployment workflows. Worked on projects involving **text generation, sentiment analysis, demand forecasting, customer churn prediction, and network intrusion detection** using tools such as **TensorFlow, Scikit-Learn, FastAPI, Docker, Streamlit, and MySQL**. Currently pursuing B.Tech in Electronics and Communication Engineering at **IIIT Sri City**.

EDUCATION

Indian Institute of Information Technology, Sri City
B.Tech in Electronics and Communication Engineering
CGPA: 8.26

Sri City, Andhra Pradesh
August 2023 - Present

WORK EXPERIENCE

Research Internship [Certificate]
Institute for Plasma Research, Gandhinagar

June 2025 – July 2025

- Implemented a **fire alarm controller** using **FPGA-based glue logic** to detect fire conditions from multiple sensors in real time.
- Addressed the need for **deterministic, low-latency response** required in safety-critical systems through hardware-level logic.
- Approached the problem by designing **modular VHDL components**, validating functionality through simulation, and mapping logic to FPGA resources.
- Deployed the solution on a **Spartan-6 FPGA**, enabling real-time sensor evaluation, LED/relay control, and **interrupt-driven UART alerts**.

PERSONAL PROJECTS

Shakespeare Text Generator using GRU

May 2026

Source Code

- Built the project to explore sequence modeling and next-word prediction using recurrent neural networks trained on **Shakespeare’s Hamlet** dataset.
- Implemented and compared **SimpleRNN, LSTM, and GRU** architectures using **TensorFlow/Keras**, including tokenization, sequence generation, padding, and NLP preprocessing workflows.
- Achieved up to **83% training accuracy** during experimentation and deployed an interactive **Streamlit** application for real-time Shakespeare-style text generation.

IMDB Sentiment Classification using RNN

May 2026

Source Code

- Built the project to analyze and classify movie review sentiment using Natural Language Processing techniques on the **IMDB movie review dataset**.
- Implemented a **SimpleRNN**-based deep learning model using **TensorFlow/Keras**, including text preprocessing, tokenization, sequence padding, and vocabulary encoding workflows.
- Developed and deployed an interactive **Streamlit** application for real-time sentiment prediction of user-provided movie reviews using trained sequential models.

Telecom Customer Churn Prediction

March 2026

Source Code

- Developed the project to identify high-risk telecom customers early using historical usage, recharge, and revenue behaviour data for retention analysis.
- Built an end-to-end machine learning pipeline with preprocessing, feature engineering, churn label generation, and class imbalance handling using **SMOTE**.
- Trained **Random Forest** and **Logistic Regression** models achieving **0.83 recall** for churn prediction, and deployed an interactive **Streamlit** dashboard for customer risk segmentation.

Retail Demand Forecasting & Business Insights Platform

Ongoing

- Developing an end-to-end retail demand forecasting system using the Walmart sales dataset to analyze seasonal demand patterns, holiday spikes, and store-level sales behaviour.
- Implemented deep exploratory data analysis, time-series preprocessing, feature engineering, and forecasting workflows using **SARIMA, Auto ARIMA, and Prophet** models with **MySQL**-based data integration.
- Performed comparative model evaluation using **MAE** and **RMSE**, achieving improved forecasting performance through seasonal tuning, holiday modeling, and automated parameter optimization.

TECHNICAL SKILLS

Languages: Python, SQL, R, Verilog.
Framework & Libraries: NumPy, Pandas, Scikit-Learn, TensorFlow, Keras, Matplotlib, Seaborn, NLP, Deep Learning.
Backend & Deployment: FastAPI, Streamlit, Docker, Git, GitHub, GitHub Actions.
Domains: Data Science, Machine Learning, Natural Language Processing, Deep Learning, FPGA Systems.