

Nagashashank Panyam

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EDUCATION

CMR Technical Campus

Bachelor of Technology in Computer Science and Data Science

Cumulative GPA: 8.2

Hyderabad, India

Expected June 2027

PROJECTS

Customer Churn Prediction using Artificial Neural Networks (ANN) | Deep Learning

- Developed an **end-to-end Customer Churn Prediction System** using TensorFlow/Keras to predict whether a customer is likely to leave a bank based on demographic and financial attributes.
- Performed comprehensive data preprocessing including **Label Encoding**, **One-Hot Encoding**, **Feature Scaling**, and train-test splitting to prepare the dataset for neural network training.
- Designed and trained a **feedforward Artificial Neural Network (ANN)** using TensorFlow and Keras with Dense layers, ReLU activation, Sigmoid output, Binary Cross-Entropy loss, and Adam Optimizer.
- Evaluated model performance using accuracy metrics and optimized the training process through experimentation with epochs, batch size, and validation data.
- Saved the trained model and preprocessing pipelines using **model.h5** and Pickle for real-world inference.
- Built an interactive **Streamlit web application** allowing users to enter customer information and obtain real-time churn predictions.
- Deployed the complete application on **Streamlit Community Cloud** and maintained the project using **Git & GitHub** with proper version control and project documentation.

Tech Stack: Python, TensorFlow, Keras, Scikit-learn, Pandas, NumPy, Streamlit, Git, GitHub

Kindle Review Sentiment Analysis | NLP & Machine Learning

- Developed an end-to-end sentiment analysis system for classifying customer reviews as positive or negative.
- Performed text preprocessing including cleaning, stopword removal, and normalization using NLTK.
- Implemented Bag of Words (BoW) and TF-IDF feature extraction techniques for text vectorization.
- Trained and evaluated multiple machine learning models including Naive Bayes and Logistic Regression.
- Achieved approximately **83% classification accuracy** using TF-IDF and Logistic Regression.
- Built an interactive Streamlit web application for real-time sentiment prediction.

Tech Stack: Python, NLTK, Scikit-learn, Pandas, Streamlit, TF-IDF, Logistic Regression

Bangalore House Price prediction | Machine Learning

- Built an end-to-end machine learning system to predict real estate prices using Python, Pandas, NumPy, and Scikit-learn.
- Performed data cleaning, outlier removal, **feature engineering**, and **dimensionality reduction** (PCA) to improve model performance.
- Trained and evaluated multiple models (Linear Regression, Lasso, Decision Tree) using **K-Fold Cross Validation**.
- Selected the best-performing model and optimized it using **hyperparameter** tuning (GridSearchCV).
- Developed a Flask-based REST API to serve predictions and integrated it with a simple frontend UI.
- Deployed the application on **Render** for real-time user interaction.
- Enabled **dynamic inputs** (area, BHK, bath, location) to generate live price predictions.

Tech Stack: Python, Pandas, NumPy, Scikit-learn, Flask, HTML, CSS, JavaScript, Render

TECHNICAL SKILLS

- Language:** Java, Python, SQL
- Libraries :** Numpy, Pandas, Matplotlib, Seaborn, Scikit-learn, TensorFlow, Keras, NLTK
- Framework:** Flask, Streamlit
- Database:** MySQL, MongoDB
- Knowledge:** Machine Learning, Deep Learning, Neural Networks, Natural Language Processing, Feature Engineering, Data Processing, Data Cleaning, Exploratory Data Analysis (EDA), Model Deployment, Statistics, Object Oriented Programming, Computer Networks
- Tools:** Jupyter Notebook, Git/Github, Visual Studio Code, Postman, Streamlit Community Cloud

ACHIEVEMENTS

- Won SIH college level Hackathon
- Leetcode 50 and 100 days badge achieved
- 150 + DSA problems solved on leetcode