

GD Goenka University

House price prediction using neural networks

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Introduction

Good afternoon, everyone! My project involves building a house price prediction model using real-world data from Delhi and Gurugram.

Unlike academic datasets, this project uses actual property listings and integrates the trained model into a Flask web application for real-time predictions.



Flask

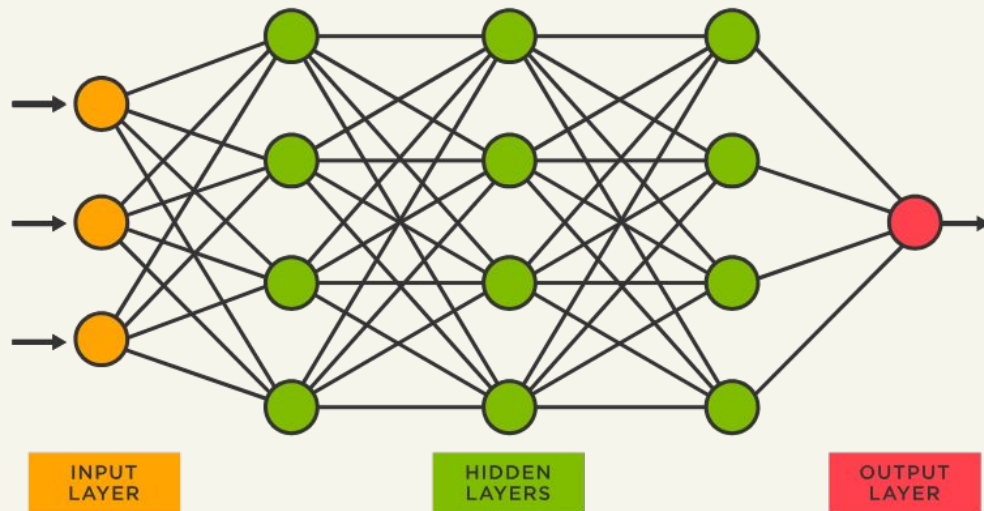


Neural Network Overview

Neural networks are inspired by the human brain and consist of:

- **Input Layer:** Takes features like size and location.
- **Hidden Layers:** Process data using activation functions.
- **Output Layer:** Predicts the house price.

For this project, I used 2 hidden layers with the ReLU activation function [Dense(128) + ReLU, Dense(64) + ReLU] and a single neuron in the output layer for price prediction.



Problem Statement & Dataset

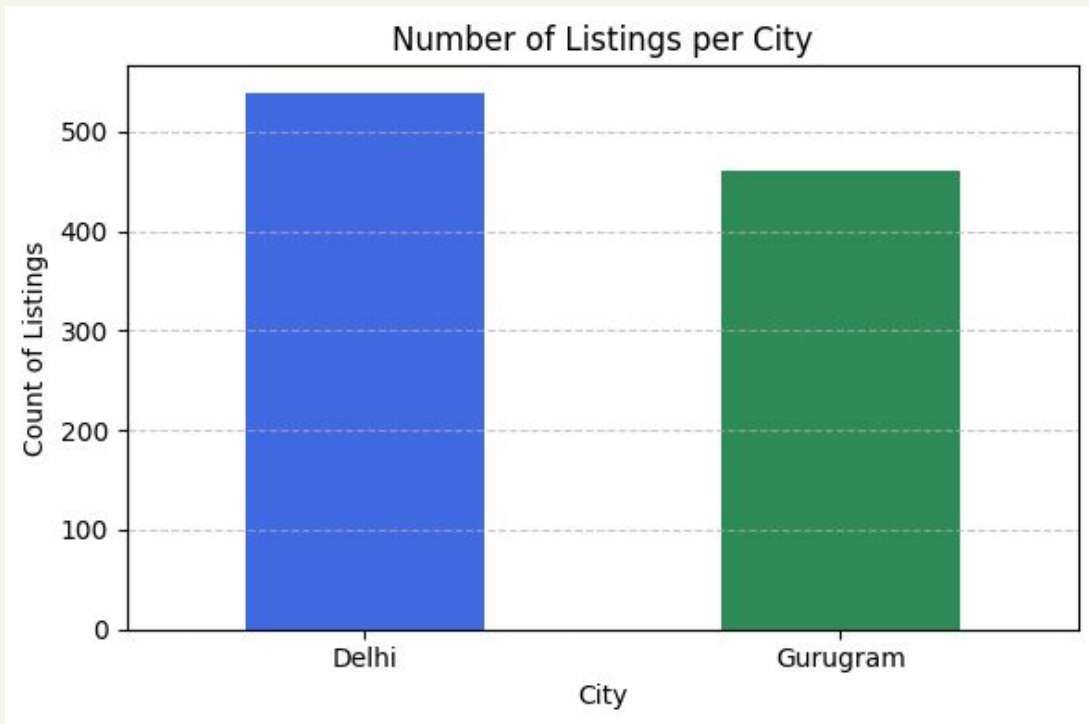
Goal: Predict house prices in Delhi and Gurugram based on key features.

Dataset Features:

- Area (sqft)
- Bedrooms & Bathrooms
- Age of Property
- Property Type
- Location & City

Preprocessing:

- One-hot encoding for categorical features
- StandardScaler for normalization



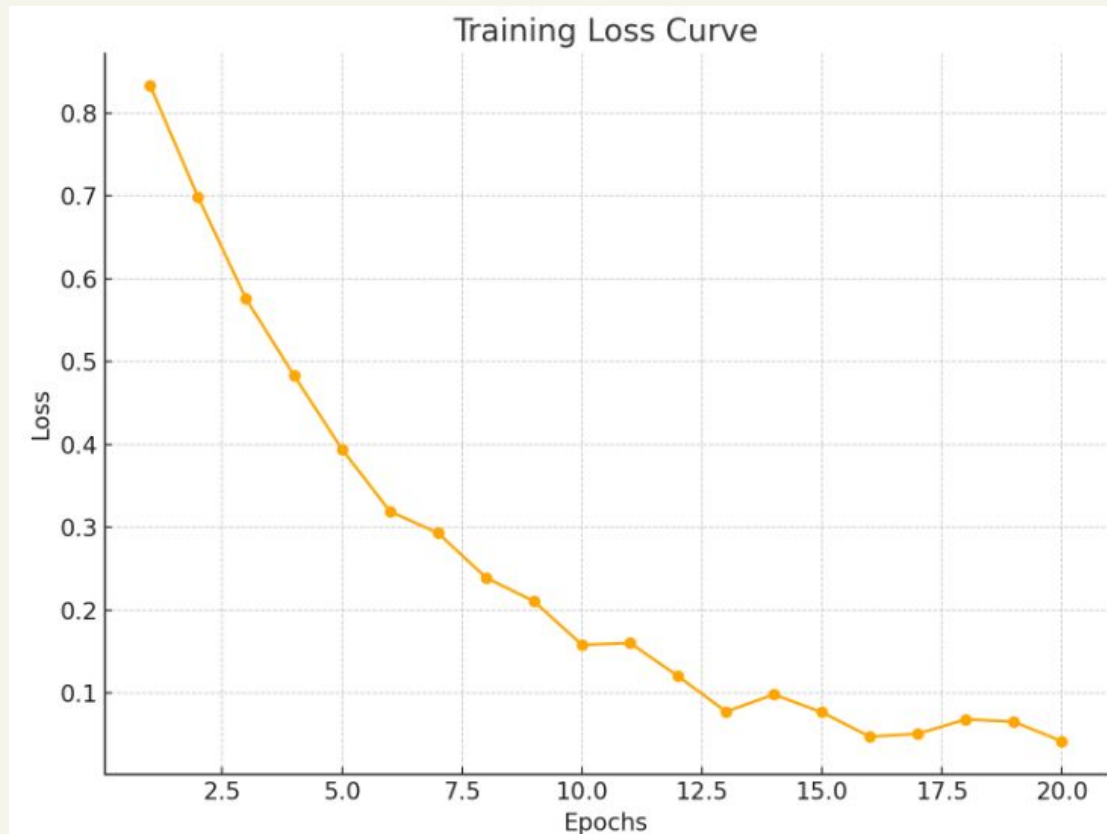
Model Training & Evaluation

Model training:

- Epochs: 100
- Batch size: Custom tuned
- Validation: 20% of training set
- Optimized using MAE and MSE

Evaluation Metrics:

| Matrix | Value |
|----------------|--------------------------|
| MAE | ₹26.7 lakhs |
| MSE | ₹8.74 × 10 ¹⁴ |
| R ² | 0.79 |



Results & Observations

Model Performance:

- Model accurately predicted house prices
- Minor deviations in high-end property prices
- Demonstrated generalization despite a small dataset



Index page

House price prediction using ml | House Price Prediction - Delhi | +

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House Price Predictor

Enter Property Details

Area (sqft)

Age of Property (Years)

Bedrooms

Bathrooms

Property Type

Location

City

Predict Price 🏠

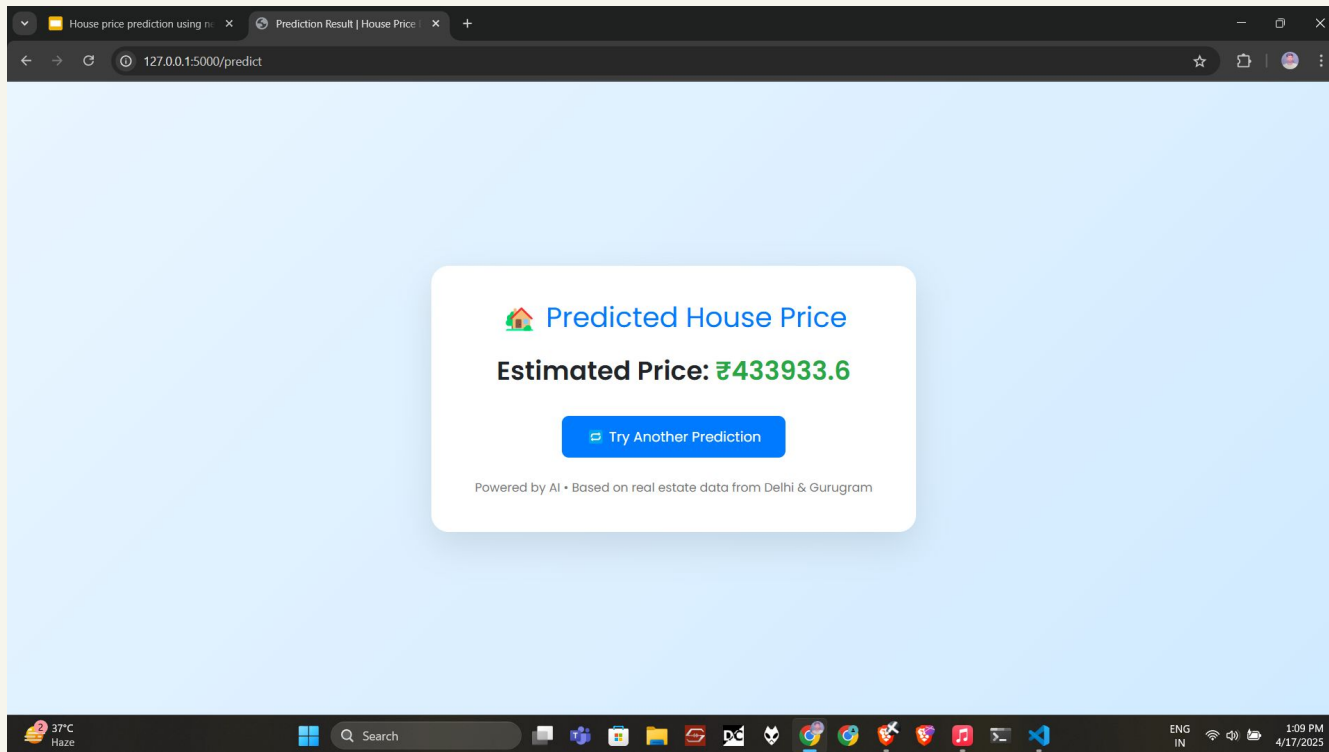
© 2025 House Price Predictor | Developed with ❤️

Air: Moderate Now

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Result page



Conclusion

In conclusion, this project highlights how neural networks can accurately predict house prices by learning patterns from data. With larger datasets and further optimization, the model can be even more robust.

✓ **Deployed on Flask** for real-time predictions

🚀 Next steps: cloud deployment, more features, map-based location integration

Access Full Code and Dataset:

 <https://github.com/alexstephen2025/Projects>

Thank you!

