



DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

PROJECT SYNOPSIS

1. Project Title: -

House price prediction using Machine Learning

2. Project Scope: -

Objective: The primary objective of this project is to develop a machine learning model capable of accurately predicting house prices based on various features. The model will assist stakeholders in making informed decisions related to buying, selling, or investing in real estate properties.

Key Features:

Data Collection: Gather a comprehensive dataset containing relevant information about properties, including size, location, amenities, and sale prices.

Data Preprocessing: Clean and preprocess the dataset to ensure quality and consistency. This involves handling missing values, removing duplicates, and encoding categorical variables.

Feature Engineering: Engineer new features derived from the existing data to enhance the predictive power of the models. These features may include metrics such as price per square foot, proximity to amenities, and neighborhood characteristics.

Model Selection: Explore and evaluate various machine learning algorithms suitable for regression tasks, such as linear regression, decision trees, random forests, and gradient boosting algorithms.

Model Training and Evaluation: Train the selected models using a portion of the dataset and evaluate their performance using appropriate metrics such as mean squared error, mean absolute error, or R-squared. Employ cross-validation techniques to ensure robustness and generalization.

Fine-tuning and Optimization: Fine-tune the models by adjusting hyperparameters and exploring different feature combinations to maximize predictive accuracy and minimize errors.

Deployment and Usage: Deploy the trained model to make predictions on new data. This could involve building a user-friendly interface, creating an API for integration with other systems, or deploying the model in a cloud environment for scalable access.

3. Requirements: -

➤ Software Requirements

1. Google Collaboratory

2. Jupyter Notebook

3. Vs Code

➤ Tech Stack

1. Python

2. NodeJs

3. ReactJs

STUDENTS DETAILS

Name	UID	Signature
NIMIT GARG	21BCS4626	
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APPROVAL AND AUTHORITY TO PROCEED

We approve the project as described above, and authorize the team to proceed.

Name	Title	Signature (With Date)
Mr. Ankur Sharma	House Price Prediction using Machine Learning	