



DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

PROJECT PROPOSAL

1. Project Title: -

House Price Anticipation with Machine Learning

2. Project Scope: -

The project scope for "House Price Anticipation with Machine Learning" encompasses the development of a robust machine learning model designed to predict house prices based on a dataset comprising various relevant features. Our primary objectives include creating an accurate predictive model, rigorously evaluating its performance using industry-standard metrics, developing a user-friendly interface for input and output, and thoroughly documenting the project for future reference and maintenance. The scope encompasses data collection and preprocessing, feature selection and engineering, model selection and development, as well as model evaluation. Optional components include the creation of a user interface and deployment, where the model may be accessible via a web service or application. We will also emphasize testing, validation, and a maintenance plan to ensure the model's reliability and relevance over time. The project timeline, risk assessment, budget considerations (if applicable), stakeholder communication plan, and approval process are all part of this comprehensive project scope, enabling us to effectively plan, execute, and deliver a successful house price prediction solution. The project's scope also involves a detailed plan for data management, encompassing data acquisition from various sources, data cleaning, and handling of missing values, outliers, and duplicates. Categorical variables will be encoded into numerical values, and numerical features will be normalized or standardized to ensure uniformity. Additionally, feature selection will involve rigorous analysis to identify the most impactful predictors, and feature engineering techniques may be employed to extract meaningful information from the available data.

In the realm of model development, a thorough exploration of machine learning algorithms will be undertaken, considering options like Linear Regression, Decision Trees, Random Forest, and potentially more complex models like Gradient Boosting and Neural Networks. The model development process will include extensive training and validation, and hyperparameter tuning to optimize model performance. Model evaluation metrics, such as Mean Absolute Error (MAE), Mean Squared Error (MSE), and Root Mean Squared Error (RMSE), will be used to assess the model's predictive accuracy.

3. Requirements: -

➤ Software Requirements

- JUPYTER NOTEBOOK
- KERAS
- NETWORKS
- NUPY
- PANDAS
- SEABORN

STUDENTS DETAILS

Name	UID	Signature
ASHISH SHARMA	21BCS10436	
MANISHKUMAR YADAV	21BCS10262	
VIDIT SHARMA	21BCS10469	

APPROVAL AND AUTHORITY TO PROCEED

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

Name	Title	Signature (With Date)