Company Business Case

MagicBricks – a real estate company

HOUSE PRICE PREDICTION USING RANDOM FOREST
ALGORITHM AND PERSONALISED HOUSE RECOMMENDATION
WITH ANALYTICAL HEIRARCHY PROCESS METHODOLOGY

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Overview

MagicBricks is a Real Estate company in Canada. Company's online platform provides deep coverage of the real estate market and property trends in major cities of Canada. The platform provides users insights on Tax planning and home loans. As Analyst at MagicBricks, we are taking up the project of Housing price prediction for Windsor city using Data Analytics. Our analysis will provide the company insights about good investment opportunities, risk assessment, financial planning and pricing strategy.

Objective

The primary objective of this project is twofold:

House Price Prediction: Firstly, we will leverage comprehensive property dataset on Windsor city to develop a robust model to forecast the house prices. The property dataset attributes include lot size, number of bedrooms, baths, storeys and amenities (driveway, entertainment areas, complete basement, gas heating, air conditioning and garage). We will train different models, including linear regression and decision trees, on the dataset. The performance of the models will be evaluated using appropriate **metrics, such as mean squared error and R-squared, to determine the accuracy and robustness of the predictions**.

Personalised Home Recommendation: Secondly we will guide our client through the intricate process of selecting their ideal home. Our client wants a couple oriented house situated in a preferred neighbourhood and it should be one-storey house. They have a fixed budget of less than 90,000$. To cater to their requirement, we will be using **AHP process**. Analytical Hierarchy Process is structured multicriteria driven framework. The process involves decision problem into hierarchical structure, making pairwise comparisons, calculating priority weights and synthesizing the results to aid in the decision making. Through comprehensive consultation with the client we will be identifying their criteria for selecting the house and employ pairwise comparison to determine the relative importance of each criteria using Satty's scale.