Executive Summary

Housing affordability remains a critical issue in Malaysia, impacting homebuyers, investors, urban planners, and policymakers. This project leverages machine learning techniques to analyze housing market dynamics, predict property prices, and segment the market based on key economic indicators. By utilizing a dataset of Malaysian housing prices, the study incorporates data preprocessing, exploratory data analysis, feature engineering, and predictive modeling to uncover insights into the factors influencing property prices.

The analysis identifies key determinants such as location, property type, economic conditions, and urban development trends. Various machine learning models are applied, including classification-based approaches for price prediction and clustering techniques for market segmentation. Model performance is evaluated using metrics such as precision, recall and F1 score. Additionally, visualization techniques such as heatmaps and distribution plots provide further insights into price trends and affordability indices across different regions.

The findings from this study offer valuable data-driven insights that can benefit multiple stakeholders. Homebuyers can make informed purchasing decisions by understanding price variations, while real estate investors can identify high-yield opportunities based on market segmentation. Urban planners and policymakers can utilize the insights to design more effective housing policies and development strategies that address affordability concerns. By demonstrating the potential of machine learning in real estate analytics, this project provides a scalable framework for predictive price modeling and market segmentation, contributing to improved decision-making in Malaysia's housing sector.