APARTMENT PRICE PREDICTION

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INTRODUCTION

Kyrgyzstan, a Central Asian country, has experienced significant urbanization and economic development in recent years. The real estate market in its capital, Bishkek, reflects these changes, with varying property prices influenced by factors such as location, size, and building type. This project aims to analyze a dataset of real estate listings to uncover key trends and predictors of property prices. The dataset was chosen for its relevance to understanding the dynamics of Kyrgyzstan's housing market and its potential to inform buyers, sellers, and policymakers.

OVERVIEW

- Data Collection:
- Data Preprocessing
- Data Analysis
- Data Visualization
- Report Writing

GOAL

- Building a machine learning model to effectively predict prices based on relatively recent data and verifying that the apartment price is appropriate.

DATA COLLECTION

To build a reliable house price prediction model, it is essential to collect high-quality and relevant datasets.
For this project, I focused on gathering data related to **real estate in Kyrgyzstan**, particularly in **Bishkek**,
as well as supporting datasets that reflect **economic** and **demographic indicators** that may influence housing prices.

DATA ANALYSIS

DATA VISUALIZATION

4. Visualizations

1. **Histograms**: Show the distribution of numeric features such as price and area. These highlight the skewness in price and the concentration of properties in specific size ranges.
2. **Boxplots**: Illustrate the variation in price across building types and floors, emphasizing the influence of these factors on pricing.
3. **Heatmap**: Displays the correlation matrix, confirming that property size is the most important driver of price.
4. **Scatter Plots**: Visualize the relationship between price and area, as well as price per square meter, highlighting the linear relationship between these variables.
5. **Bar Charts**: Compare average prices across different districts and building types, showcasing the impact of location and construction material on property values.
6. **Pay Charts**: Illustrate the distribution of prices across different conditions and building ages, revealing trends in property valuation based on these factors.

Each visualization provides insights into the dataset's structure and the relationships between variables, aiding in understanding the factors influencing property prices.

MACHINE LEARNING MODELS

- Decision Tree
- Gradient Boosting
- Kneighbors regressor
- Linear regression

5. REPORT WRITING