

DSS5105 Assignment-1

SG Private Housing Transaction Prediction

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1 Analysis

1.1 Top 3 Key Factors

Based on the Random Forest feature importance analysis in Step 4:

- **Project Name (Encoded):** Importance score of 0.4948. Project reputation significantly impacts property values, as premium developments by established developers command higher prices due to brand trust and quality assurance.
- **Area (SQFT):** Importance score of 0.3926. Property size shows the strongest intuitive relationship with price - larger units directly correlate with higher transaction values, reflecting Singapore's premium on space.
- **Type of Sale (Resale):** Importance score of 0.0213. Resale properties exhibit different pricing dynamics compared to new sales, often reflecting market conditions and property age factors.

1.2 Patterns Trends

- **Location premium:** Prime districts (9-11) command 150-200% premiums over outer districts (23-27), demonstrating extreme location-based pricing tiers [Section 3.1].
- **Seasonal effects:** November shows the highest median prices and peak transaction volumes, with Q4 commanding 8-12% seasonal premiums over other quarters [Section 3.4].
- **Tenure impact:** Long-term leasehold comprises 59.68% of properties, with freehold commanding 20-30% premiums over short-lease properties [Section 3.3].
- **Size correlation:** Larger units show exponential price increases, indicating the concentration of the luxury market [Section 2.4].

1.3 Buyer Recommendations

- **Districts:** Focus on Districts such as 17, 25 offering average SGD 1.1M properties, representing 50%+ savings versus premium districts 9-10. [Section 3.1]
- **Purchase during low demand months:** Purchase during August, December, or January: Purchasing property in August/December/January is a good idea, as the mean and median property prices are the lowest in these months, likely owing to demand being low during these months (festive or school beginning). [Section 3.4]
- **Consider a smaller property size:** Intuitively smaller properties cost less; they can offer considerable savings over a period of time. [Section 2.4]