



In the real estate market, pricing a house

depends on multiple factors.

This project explores how various features like area, bedrooms, age, and amenities affect house pricing using EDA techniques.

o Goal: Help the company make data-driven pricing decisions.



Objectives of the Project

- ✓ Identify key factors influencing SalePrice
 - ✓ Use Python for EDA and visualizations
- Perform
 feature engineering
 for better insights
- Provide business
 -relevant
 recommendations

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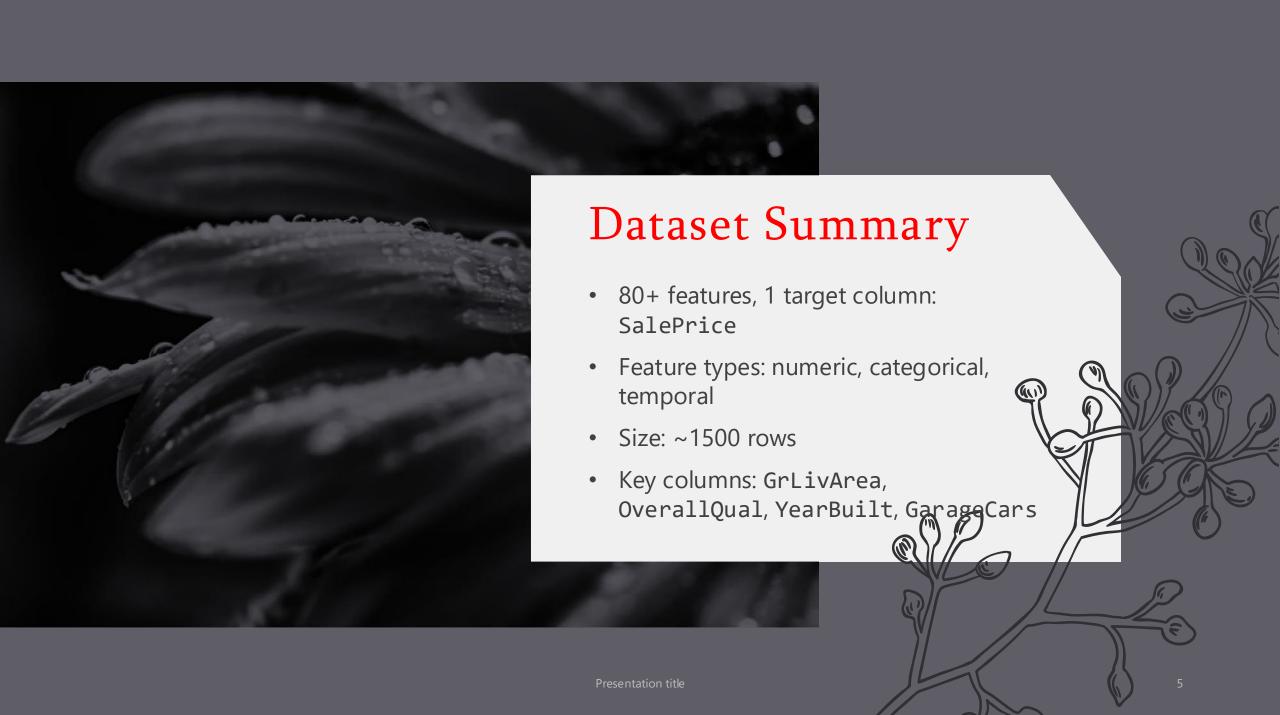
Tools & Technologies

Python (Jupyter Notebook)

Libraries: pandas, numpy, matplotlib, seaborn

techniques for analysis

Environment:
Anaconda / Google
Colab



Data Cleaning & Preprocessing

- Dropped duplicates and handled missing values
 - Column names standardized
 - Ensured consistency in data types
 - Created new features: price_per_sqft, property_age

Univariate Analysis

- SalePrice is right-skewed
- Most homes have 3 bedrooms
- Number of bathrooms shows natural grouping

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Bivariate Analysis

- GrLivArea shows strong positive correlation with SalePrice
 - Bedrooms and Bathrooms show moderate influence

Multivariate Analysis

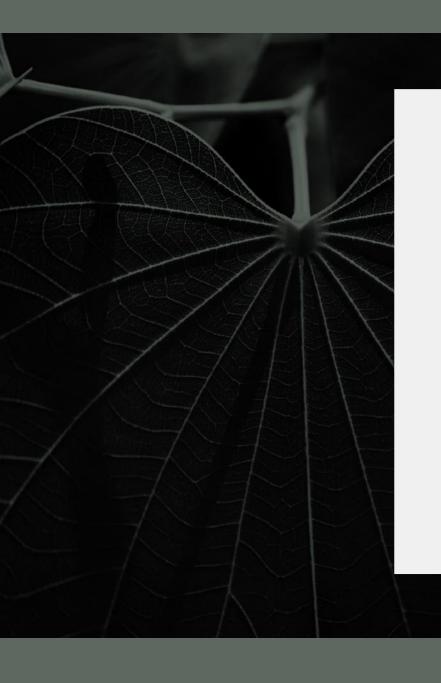
Heatmap of correlations revealed:

- High correlation: OverallQual, GrLivArea
- Weak correlation: BedroomAbvGr

Feature Engineering

- Created price_per_sqft for betterComparison
- Property Age gives insight into value
 Depreciation
- Combined features help identify
 undervalued/overvalued homes

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Market Trends Analysis

- Analyzed prices over time (by year/month)
- Found pricing spikes during certain years
- Used YrSold and MoSold to create
- sale_date

Amenities & Customer Preferences

Amenities like garage, deck, and pool impact price significantly

Homes with more garage space sold for higher prices

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Final Insights & Recommendations

- Focus on improving overall quality for value boost
 Market homes with high living area & modern
 features
 - Include amenity-based pricing in strategy
 Use EDA insights for targeted pricing models

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Thank You!

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