Decoding Rent Prices

An infographic on building a machine learning model to predict house rents.

The Project Pipeline

From raw data to a final prediction, the project follows a structured machine learning workflow to ensure accuracy and reliability.

1. Data Prep
Clean & scale data

→

2. EDA
Visualize relationships

→

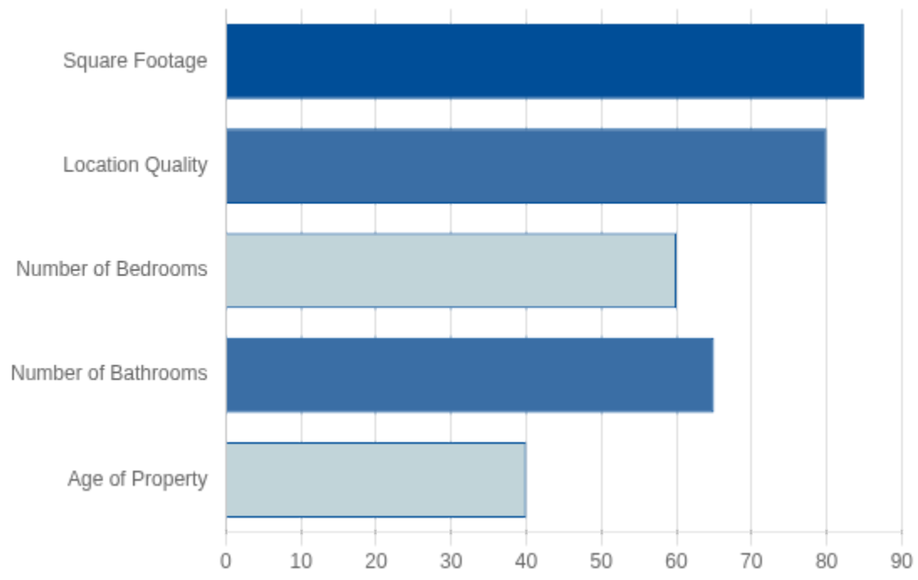
3. Model Training
Build regression models

→

4. Evaluation
Assess performance

What Drives the Rent?

Certain features have a greater impact on rental prices. This chart shows an illustrative comparison of how different property attributes might contribute to the final prediction.



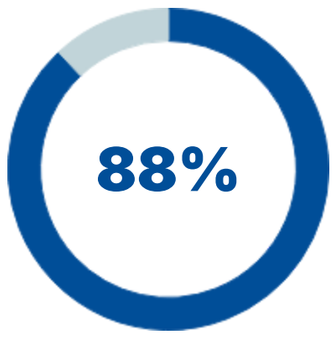
Choosing the Right Model

Different models offer trade-offs between accuracy, speed, and complexity. A Random Forest model often provides a strong balance for this type of prediction task.

How Well Does It Predict?

Key metrics help us quantify the model's performance. The R^2 score shows the percentage of rent variation the model can explain, while MAE and MSE measure prediction errors.

R^2 Score



Percentage of variance in rent that the model successfully explains.

Mean Absolute Error (MAE)

$150

On average, the model's prediction is off by approximately $150.

Mean Squared Error (MSE)

38k

This metric penalizes larger errors more heavily, giving a sense of outlier impact.

Technology Stack

Python · Pandas · NumPy · Scikit-learn · Matplotlib · Flask