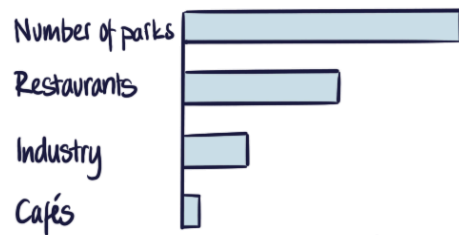


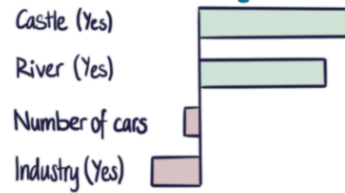
FEATURE IMPORTANCE



Feature importance

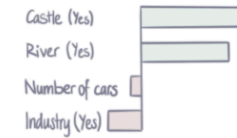
Feature importance is based on the idea of permutation where you shuffle the values of a feature. If this change increases the model error, the feature is perceived to be important.

SHAP(LEY) VALUE



SHAP values (**SH**apley **A**dditive **eX**planation) are based on Shapley values — a game theoretical approach that calculates the average of all marginal contributions to all possible outcomes. SHAP approximates this approach and looks at how the prediction changes when we (step-wise) include or exclude each feature. With its additive feature, it also ensures that the sum of all contributing features should equal the difference between the actual prediction and the average prediction.

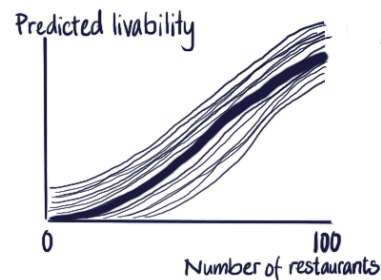
LIME



LIME plots tell locally around a data point what the most important feature is. While they may look similar to SHAP, they are only an approximation (calculated on a small set of features) and do not provide a guarantee of accuracy and consistency. LIME stands for **local interpretable model-agnostic explanations**.

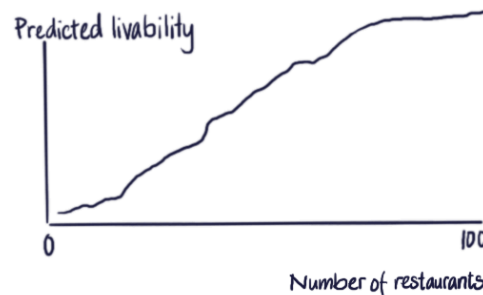
ICE

ICE plots show the **individual conditional expectation** (= ICE) where all other features are kept the same and the effects for one feature are calculated.



PARTIAL DEPENDENCE

Partial dependence plots visualize the **average** output of the model for each target feature value for the entire dataset.



BREAKDOWN PLOT

Breakdown plots show the contribution of every variable to the final prediction.

