Selecting features with Lasso

LASSO

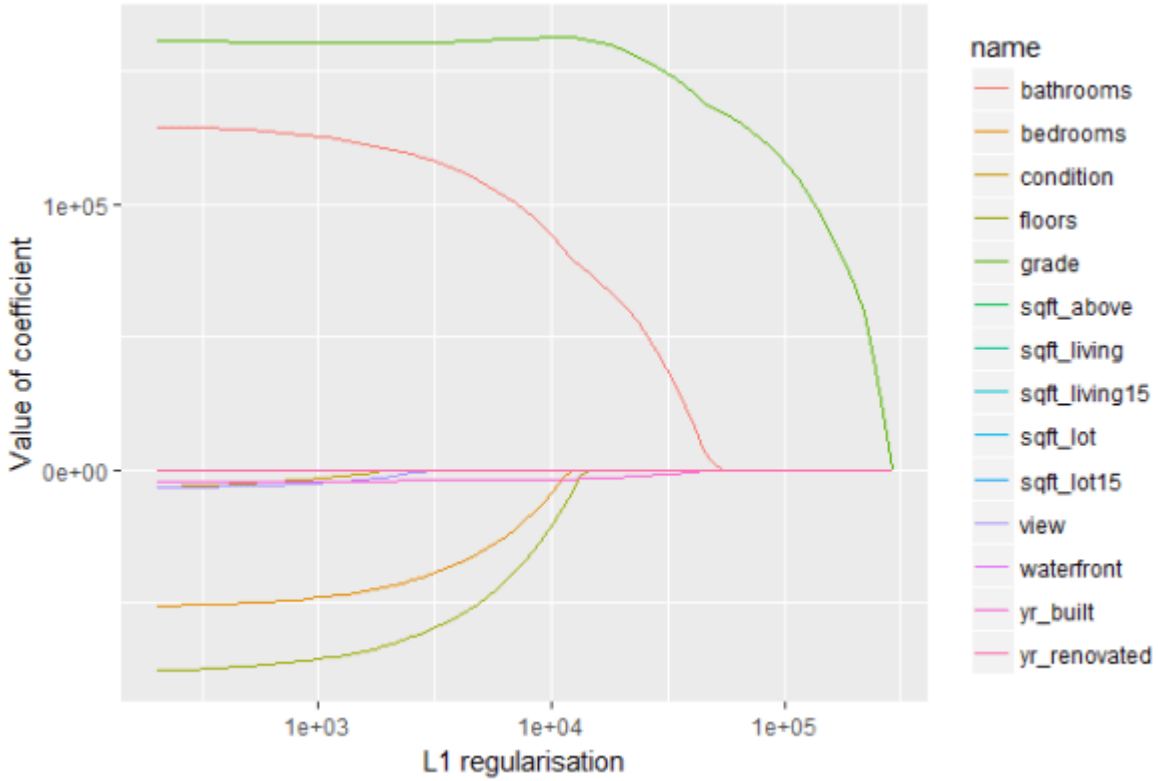
- Stands for Least Absolute Shrinkage and Selection Operator.
- Regularization constraint introduced to the objective function of linear models to prevent overfitting.
- Can reduce the number of features by shrinking their coefficients (β_i) to zero.

LASSO

$$\frac{1}{2m} \times \sum (y - ypred)^2 + \lambda \sum \emptyset^1$$

- m = number of observations
- y = target
- y_{pred} = predictions
- λ is the regularization parameter

LASSO



As the strength of the regularization increases, the number of features decreases.

https://www.r-bloggers.com/machine-learning-explained-regularization/

Finding the right penalization

- Hyperparameter tuning.
- Optimize for big R^2 or small RMSE / MSE

Optimize for interpretability

- Find the simplest model with the greatest performance.
- The less features the more interpretable the model is.

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THANK YOU

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