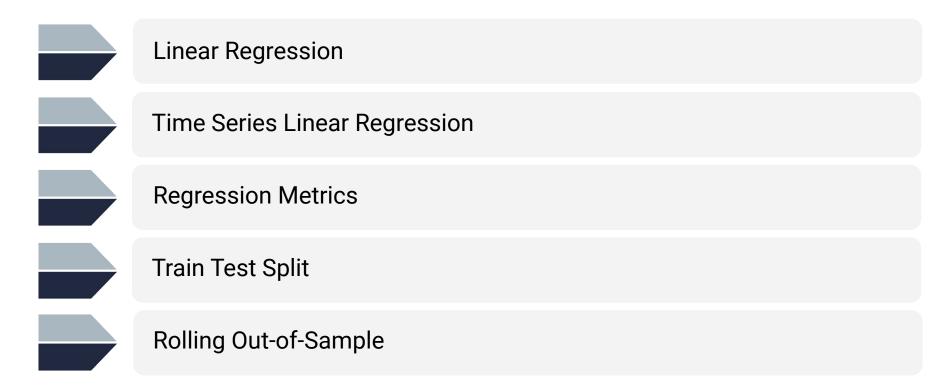


Class Objectives

By the end of today's class you will understand:





Line Equation

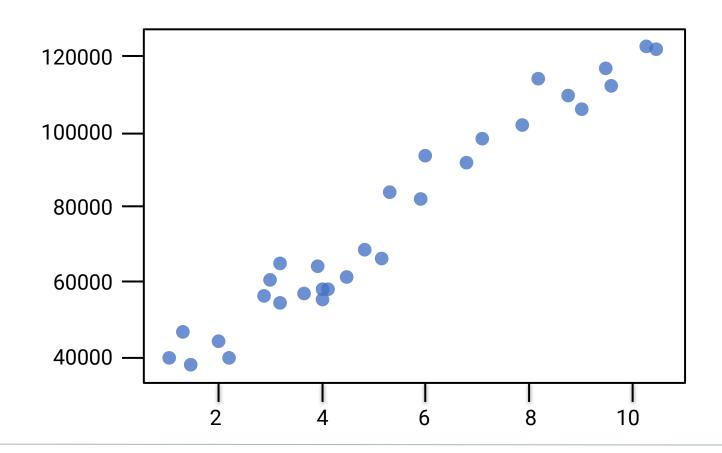
$$y = mx + b$$

m = slope

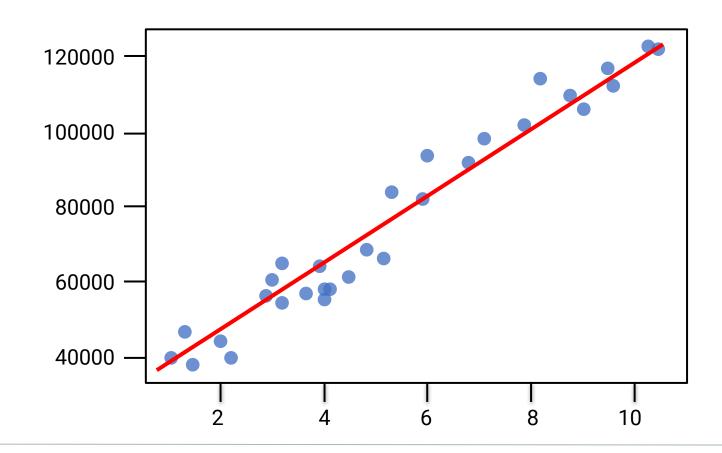
b = y-intercept (the value of y when x = 0)

4

Linear Regression: Find the Line That Best Describes the Data



Best Fit Line



Multiple Regression

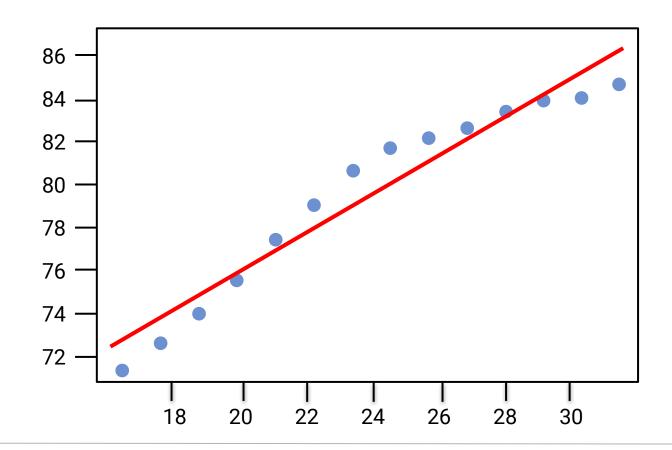
Each day (X) is assigned its weight, or coefficient.

$$y = b_0 + b_1 X_1 + b_2 X_2 \dots$$

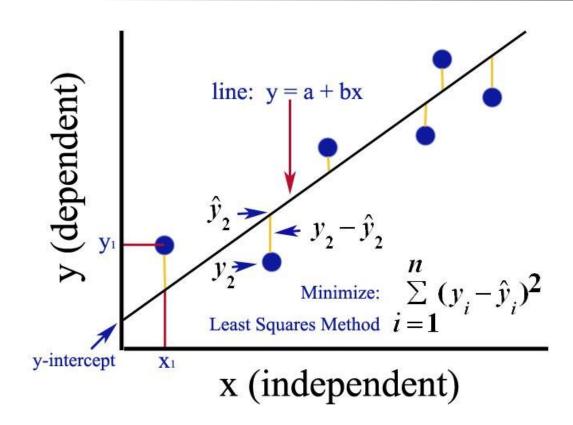
7

Regression Metrics

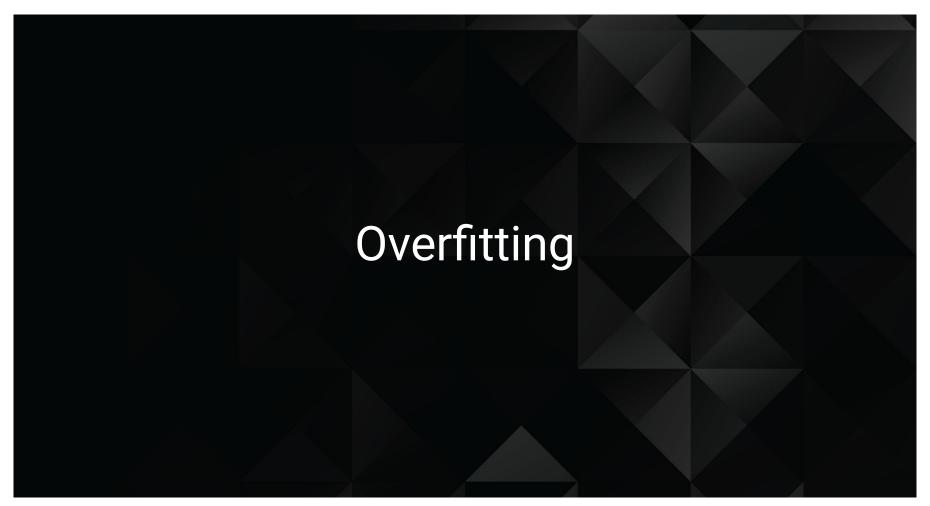
Best Fit Line



Regression Metrics

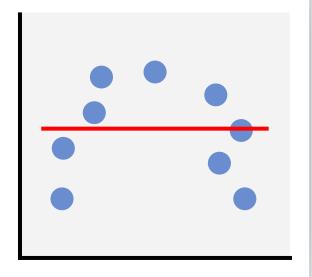




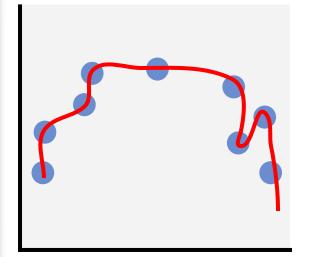


Overfitting

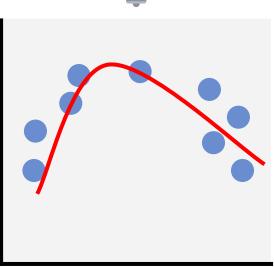
Underfit



Overfit

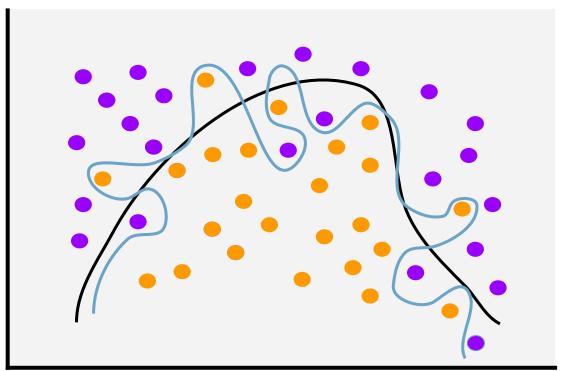


Ideal

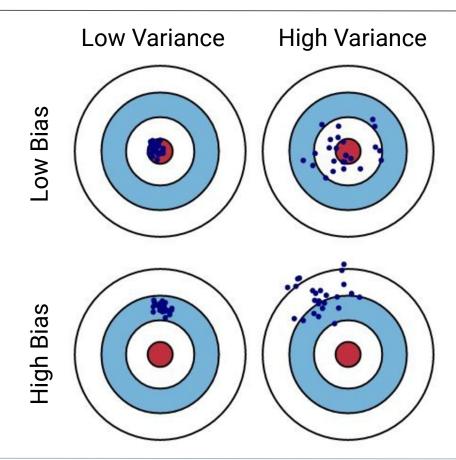


Overfitting

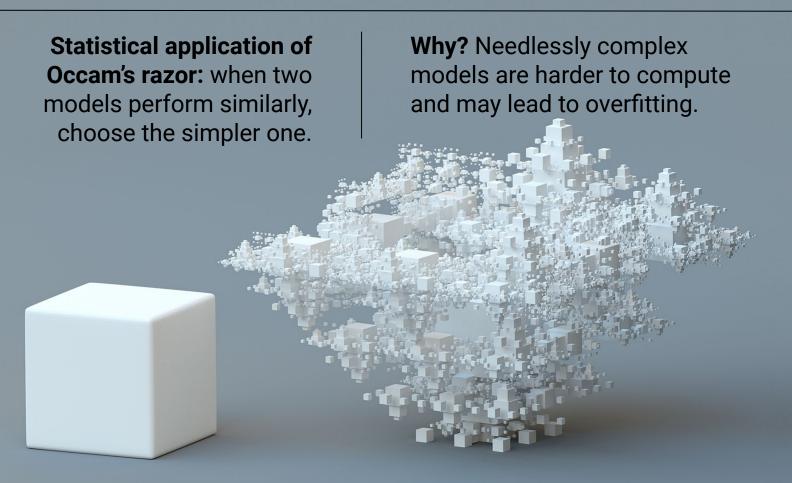
Overfit models learn the 'noise' found in the training data, rather than just the 'signal'



Variance vs Bias



Parsimony





A Rolling Out-of-Sample Approach

