Inference:

🡪after first line:

Understand how Y changes as a function of X1, …, Xp.

Positive relationship: increase predictor associated with increasing Y

opposite relationship: decrease predictor associated with decreasing Y

It is possible that relationship to Y are also depended on multiple predictors

How to estimate f:

In this graph, there are 30 observed data point, so n = 30.

The goal is to apply a statistical learning method to the training data in order to estimate the unknown function f.

(Want to find a function such that Y is similar to for any observation (X,Y).

2nd parametric slid:

In between last sentence 🡪 because it is generally much easier to estimate a set of parameters, such as β0, β1, β2, … , βp in the linear model

Overfitting the data means they follow the errors too closely

Non-parametric:

By avoiding the assumption of a particular function form for *f*, non-parametric approaches have

Disadvantage:

Since non-parametric approach does not reduce the problem of estimating f to a small number of parameters

True f:

The fit obtained will not yield accurate estimates of the response on new observations that were not part of the original training data set