

January 16, 2016

1 Multiple Regression

1.1 Overview

The Multiple Regression goal is to perform Model Fitting (hence adjusting internal parameters of an “a priori” Model with “a posteriori” Data) so to be able to perform predictions and explanations

1.2 Linear Model

Represented by linear relationships between

- Y Dependent Variable
- $\{X_i\}_{i=1, \dots, n}$ Set of n Independent Variables

1.2.1 Case Mono with $n = 1$

The standard mono linear regression with the following model

$$Y = a + bX$$

Solution The **Angular Coefficient** is found using correlations

$$b = \frac{Cov(X, Y)}{\sigma_x^2}$$

and the **Fixed Term** is found using the mean relationship

$$a = \bar{y} - b\bar{x}$$

In []: