

(Hoff p. 152ff.)

Let \mathbf{y} be the n -dimensional column vector $(y_1, \dots, y_n)^T$ and let \mathbf{X} be the $n \times p$ matrix whose i th row is \mathbf{x}_i . Then the normal regression model is that

$$\{\mathbf{y}|\mathbf{X}, \beta, \sigma^2\} \sim \text{multivariate normal } (\mathbf{X}\beta, \sigma^2\mathbf{I})$$