CCE Proficience – 2018

Basics of Data Analytics – ML & NLP

Assignment 5

1. Prove that $\bar{x}$ is unbiased estimate of μ

$$\mu = \bar{x} = \frac{\sum_{i=1}^{n} x_i}{n}$$

2. Prove that $\bar{x}$ is not unbiased estimate of σ^2

$$\frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n}$$

3. In the process of proving 2nd proof. Prove that.

$$\sigma^2 = \frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n-1}$$