

# CONTRIBUTEURS

## Lesson 25 : Estimator Quality

### Sample Statistics

**Sample Mean** Unbiased estimator of the true mean  $\mu$ .

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

**Sample Variance** Unbiased estimator of the true variance  $\sigma^2$ .

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

**Empirical Variance** Biased estimator of the true variance  $\sigma^2$ .

$$\hat{\sigma}^2 = \frac{\sum (x_i - \bar{x})^2}{n}$$