#### This module covers...

- Statistical Moments 1 4
  - 1st: mean / average / median
  - 2nd: standard deviation / variance
  - 3rd: skewness
  - 4rd: kurtosis
- Covariance, covariance matrices and correlation
- Multidimensional vector spaces

## In this Video you will learn...

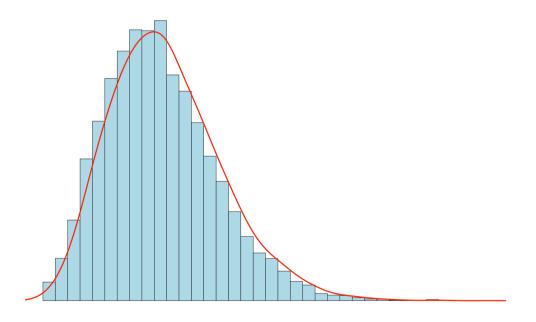
#### Skewness

### The 3rd moment

how asymmetric data is spread around the mean

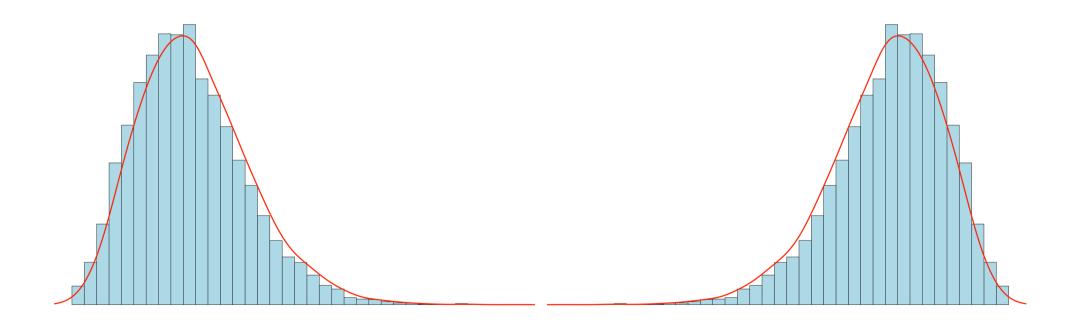
# The 3rd moment

how asymmetric data is spread around the mean



### The 3rd moment

how asymmetric data is spread around the mean



$$skewness = \frac{1}{n} \frac{\sum_{i=1}^{n} (x_i - \bar{x})^3}{s^3}$$

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$$skewness = \frac{1}{n} \frac{\sum_{i=1}^{n} (x_i + \bar{x})^3}{s^3}$$

$$skewness = \frac{1}{n} \frac{\sum_{i=1}^{n} (x_i - \bar{x})^3}{s^3}$$

$$skewness = \frac{1}{n} \frac{\sum_{i=1}^{n} (x_i - \bar{x})^3}{s^3}$$

$$skewness = \left(\frac{1}{n}\right)^{\sum_{i=1}^{n} (x_i - \bar{x})^3}$$

# Summary

- skewness is the 3rd moment of a statistical distribution
- tells us about asymmetry of data around the mean

#### The next video covers...

#### Kurtosis