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…

Standard Deviation

The 2nd moment

- how wide is data spread around the mean

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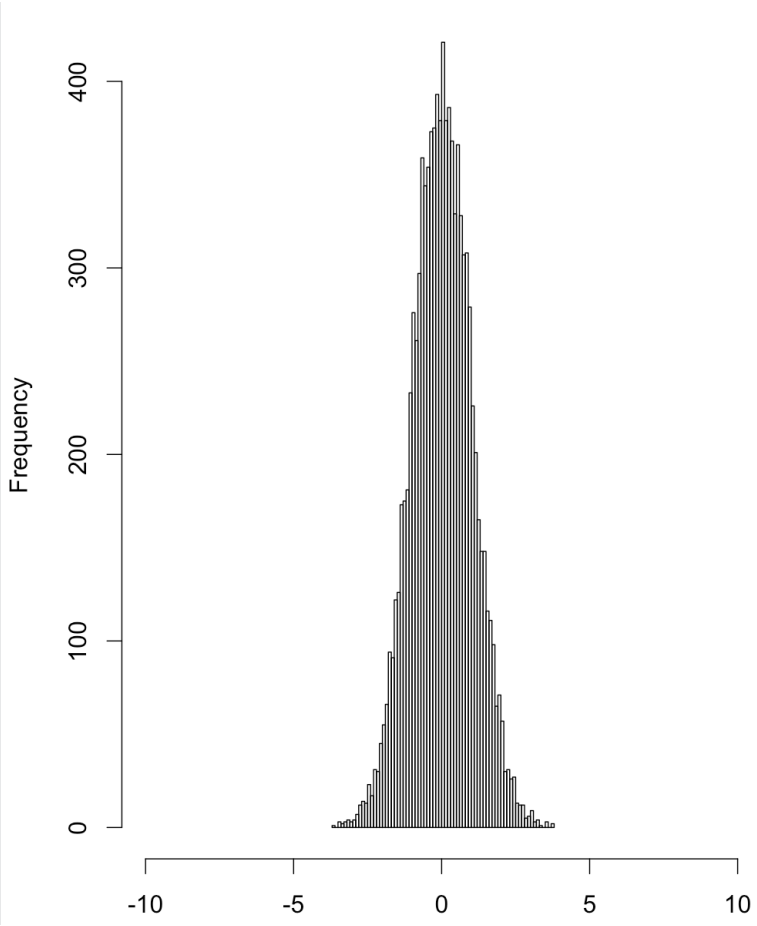
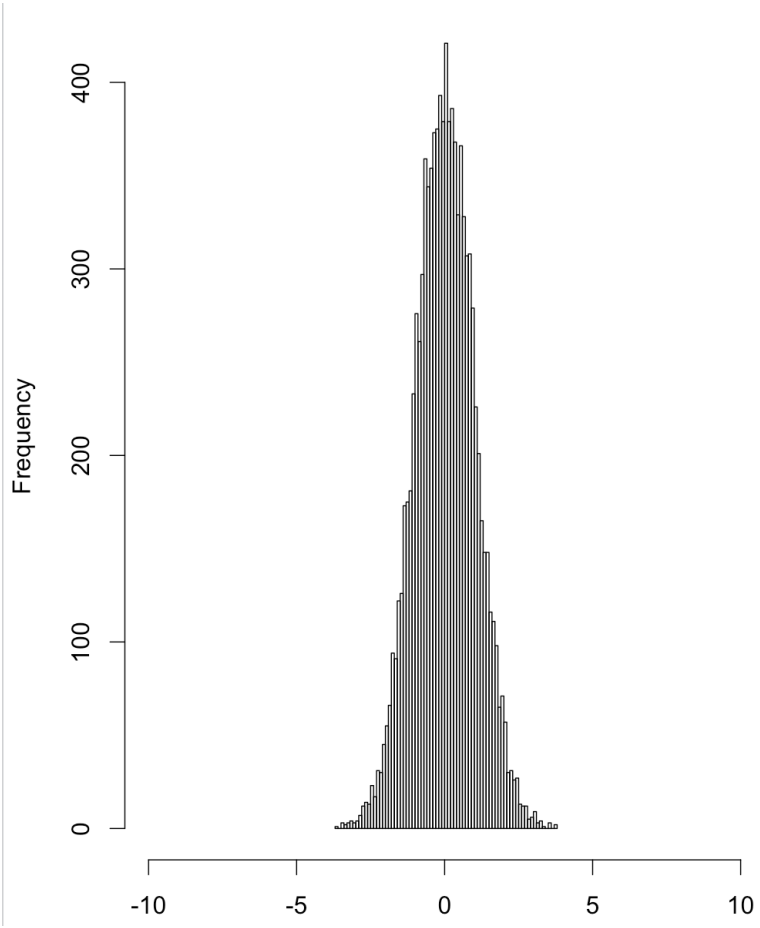
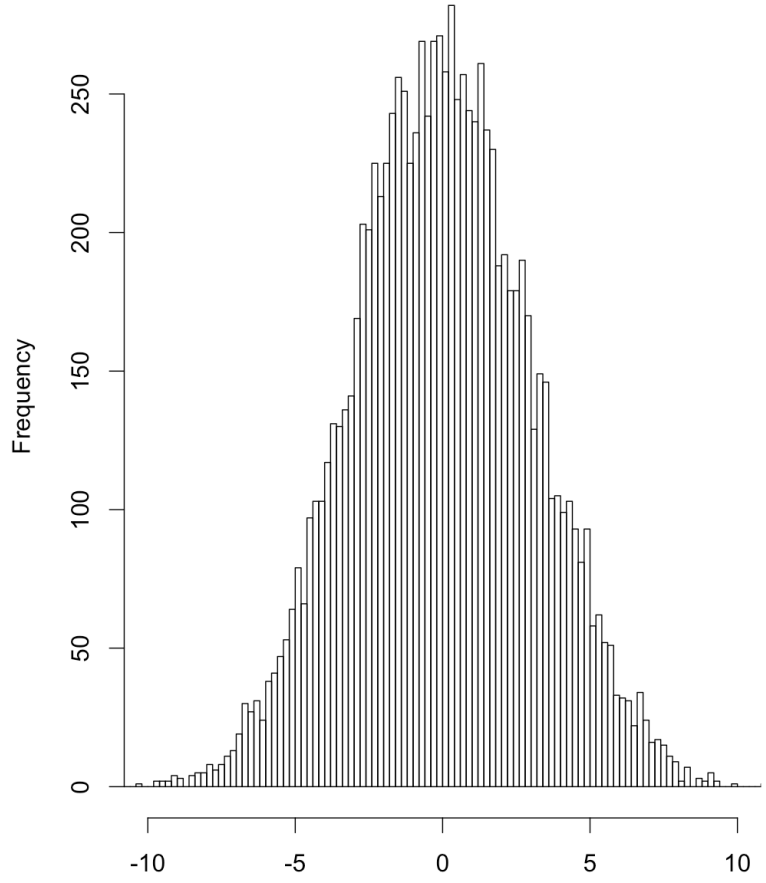


The 2nd moment

- how wide is data spread around the mean





standard deviation

$$s_N = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \overline{x})^2}$$

Summary

- standard deviation is 2nd moment of a statistical distribution

- variance is standard deviation to the power of two

$$\begin{pmatrix}\text{Standard}\\ \text{Deviation}\end{pmatrix} = \sqrt{\text{Variance}}$$

$$\sigma = \sqrt{\sigma^2}$$

The next video covers…

Skewness