**Standard Deviation**

**Definition**

In math and statistics standard deviation is a measure of variation of a set of values. Given a set of numbers as input a standard deviation function will return the dispersion of the set. There are two variations of standard deviation: population standard deviation which can be calculated using the formula:

And sample standard deviation that can be calculated using the formula:

Where *N* represents the size of the set, represents each value from the set and represents the mean of the set [1]. A low standard deviation indicates that the values are closely clustered around the mean while a high standard deviation indicates the spread of values over a wider range. Standard deviation is generally used when the values are normally distributed resembling a bell curve. Along with the mean, standard deviation is commonly used to understand if a value is statistically significant or part of the expected variation [2].

**Glossary**

Dispersion: In statistics dispersion describes the size of the distribution of values expected for a particular variable.

Mean: The arithmetic mean is the average of the numbers.

**References**

[1] “List of Probability and Statistics Symbols,” *Math Vault*, 14-Sep-2020. [Online]. Available: https://mathvault.ca/hub/higher-math/math-symbols/probability-statistics-symbols/. [Accessed: 07-Jun-2021].

[2]“What is Standard Deviation and how is it important?,” *EduPristine*, 24-Sep-2018. [Online]. Available: https://www.edupristine.com/blog/what-is-standard-deviation. [Accessed: 07-Jun-2021].