

Spatial-Temporal Reasoning	<p>Spatial-temporal reasoning is an area of artificial intelligence which draws from the fields of computer science, cognitive science, and cognitive psychology. Spatial-temporal reasoning is the ability to mentally move objects in space and time to solve multi-step problems. Three important things about Spatial-temporal reasoning are:</p> <ol style="list-style-type: none"> 1. It connects to mathematics at all levels, from kindergarten to calculus 2. It is innate in humans 3. Spatial-temporal reasoning abilities can be increased. This understanding of Spatial-temporal reasoning forms the foundation of Spatial-temporal Math
Standard Deviation	<p>Standard deviation signifies how dispersed is the data. It is the square root of the variance of underlying data. Standard deviation is calculated for a population.</p>
Standardization	<p>Standardization (or Z-score normalization) is the process where the features are rescaled so that they'll have the properties of a standard normal distribution with $\mu=0$ and $\sigma=1$, where μ is the mean (average) and σ is the standard deviation from the mean. Standard scores (also called z scores) of the samples are calculated as follows:</p> $z = \frac{x - \mu}{\sigma}$
Standard error	<p>A standard error is the standard deviation of the sampling distribution of a statistic. The standard error is a statistical term that measures the accuracy of which a sample represents a population. In statistics, a sample mean deviates from the actual mean of a population this deviation is known as standard error.</p>
Statistics	<p>It is the study of the collection, analysis, interpretation, presentation, and organisation of data.</p>
Stochastic Gradient Descent	<p>Stochastic Gradient Descent is a type of gradient descent algorithm where we take a sample of data while computing the gradient. The update to the coefficients is performed for each training instance, rather than at the end of the batch of instances.</p> <p>The learning can be much faster with stochastic gradient descent for very large training datasets and often one only need a small number of passes through the dataset to reach a good or good enough set of coefficients.</p>
Supervised Learning	<p>Supervised Learning algorithm consists of a target / outcome variable (or dependent variable) which is to be predicted from a given set of predictors (independent variables). Using these set of predictors, we generate a function that map inputs to desired outputs. Like: $y = f(x)$</p> <p>Here, The goal is to approximate the mapping function so well that when you have new input data (x) that you can predict the output variables (Y) for that data.</p> <p>Examples of Supervised Learning algorithms: Regression, Decision Tree, Random Forest, KNN, Logistic Regression etc.</p>

SVM

It is a classification method. In this algorithm, we plot each data item as a point in n-dimensional space (where n is the number of features you have) with the value of each feature being the value of a particular coordinate.

For example, if we only have two features like Height and Hair length of an individual, we'd first plot these two variables in two-dimensional space where each point has two coordinates (these coordinates are known as **Support Vectors**) Now, we will find some *line* that splits the data between the two differently classified groups of data. This will be the line such that the distances from the closest point in each of the two groups will be farthest away.

