Início (/)   /   Article

Machine Learning Algorithm - Backbone of emerging technologies (/articles/203-machine-learning-algorithm-backbone-of-emerging-technologies/)

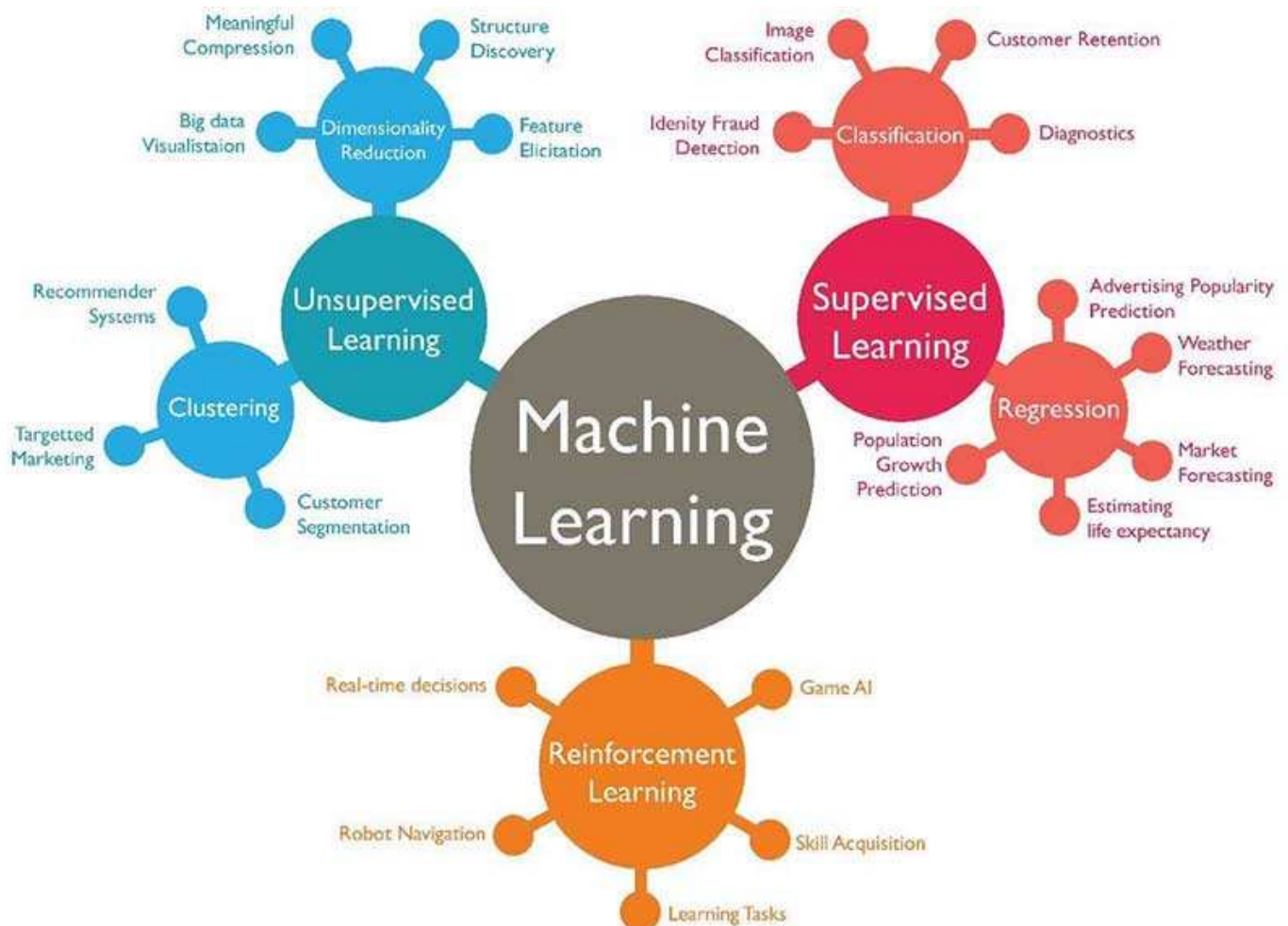📅 17 de Julho de 2017 às 15:02   By: Vishakha Jha (/users/Vishakha/)

| Facebook | Twitter | LinkedIn | WhatsApp | Flipboard | More | 500 |

Machine learning is a method of data analysis that automates analytical model building. It is inherently different rather than pushing the commands by programmer regarding how to solve; it explains how to proceed towards learning to solve the problem on its own. Resurging interest in machine learning is due to the fact that it

works by learning to identify patterns in data and then make predictions from those patterns. These technologies are widely used in projects including Spelling correction in web search engines, Analysis of information from IOT devices, Real-time language translation and much more.

Machine learning algorithms are replacing a large amount of the jobs across the world, in the upcoming years. The algorithms can be broadly classified as Supervised, Unsupervised, Reinforcement Learning and others on the basis of their different categories.

Supervised Machine Learning Algorithm

These are the algorithms that work on predictions and search for patterns on given set of samples. Supervised Machine Learning Algorithms attempt to render relationships and dependencies between the target prediction output and the input features. In this, we start from input variables (x) and an output variable (Y) and try to map functions from the input to the output so that they establish a relationship which can be used for prediction.

There are some common algorithms that lie under the umbrella of a supervised algorithm such as- Linear regression (http://www.techleer.com/articles/128-interpretable-machine-learning-algorithm-linear-regression/) for regression problems, Random forest (http://www.techleer.com/articles/107-random-forest-supervised-classification-machine-learning-algorithm/) for classification and regression problems, Support vector machines (http://www.techleer.com/articles/146-svm-the-go-to-method-machine-learning-algorithm/), Nearest Neighbour and others. Supervised learning is commonly used in classification problems such as- Digit recognition, Speech recognition, Diagnostics, Identity Fraud detection etc and Regression problem such as weather forecasting, estimating life experience, population growth prediction etc.

Unsupervised Machine Learning Algorithm

Unsupervised machine learning algorithms arrange the data into a group of clusters. It describes its structure and makes complex data look simple and organised for analysis.

Unsupervised learning takes place when you have no labelled data available for training. It is the basic type algorithm where you only have input data and no coinciding output variables. These are called so because there is no corresponding output to a particular input. Their problems can be further grouped into clustering to discover inherent grouping and association problems. Some popular examples of unsupervised learning algorithms are k-means for clustering problems (http://www.techleer.com/articles/122-unsupervised-learning-algorithm-k-mean-clustering-algorithm/) used in recommender systems, customer segmentation and targeting marketing and dimensionality reduction problem for big data visualisation, feature elicitation, structure discovery etc.

Reinforcement Machine Learning Algorithm

These algorithms forward an action according to the data point and later assess the decision. Algorithm utilises the observations collected from the interaction and take actions so as to minimise the risk and maximise the benefits. The algorithm learns in an iterative fashion. Common Algorithms that come under the reinforcement are Q-Learning, Deep Adversarial Networks, and Temporal Difference. Algorithm is applicable in the field of Game AI, skill acquisition, learning tasks, robot navigation and real-time decision.

algorithms   (/articles/tag/algorithms/)   machine-learning   (/articles/tag/machine-learning/)
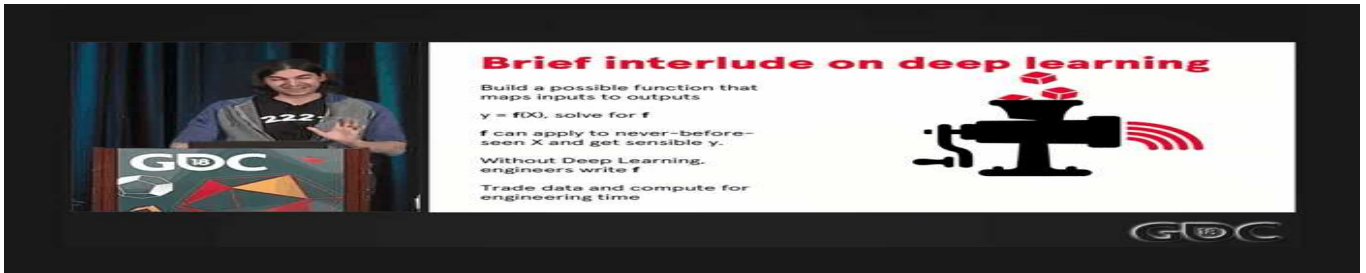

Latest Stories

(/articles/523-how-to-install-tensorflow-on-the-raspberry-pi/)

How To Install Tensorflow On The Raspberry Pi (/articles/523-how-to-install-tensorflow-on-the-raspberry-pi/)

(/articles/525-gdc-2018-john-mcdonald-valve-using-deep-learning-to-combat-cheating-in-csgo/)

GDC 2018: John McDonald (Valve) - Using Deep Learning to Combat Cheating in CS:GO (/articles/525-gdc-2018-john-mcdonald-valve-using-deep-learning-to-combat-cheating-in-csgo/)
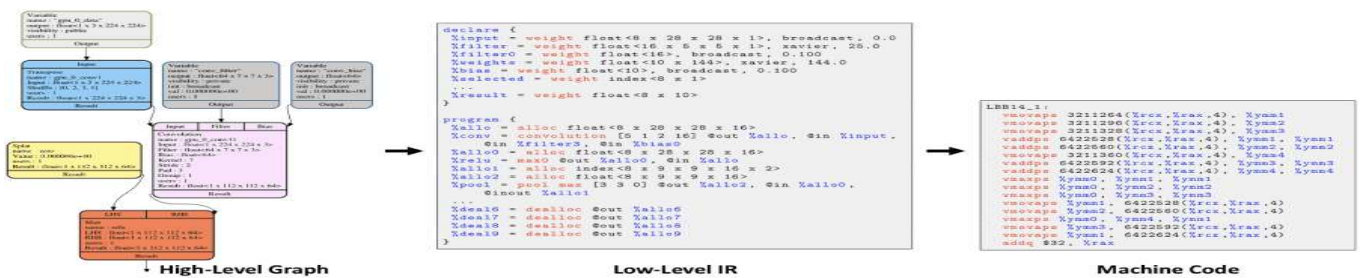
(/articles/524-glow-compiler-for-neural-network-hardware-accelerators/)

Glow: Compiler For Neural Network Hardware Accelerators (/articles/524-glow-compiler-for-neural-network-hardware-accelerators/)
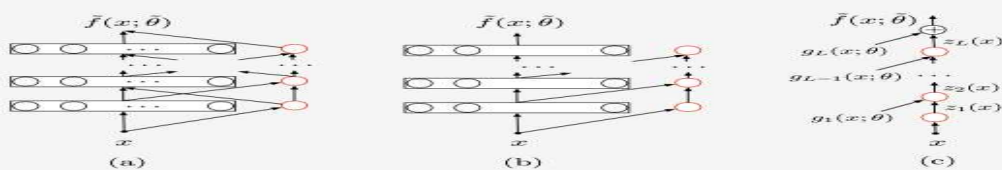
(/articles/526-adding-one-neuron-can-eliminate-all-bad-local-minima/)

Adding One Neuron Can Eliminate All Bad Local Minima (/articles/526-adding-one-neuron-can-eliminate-all-bad-local-minima/)
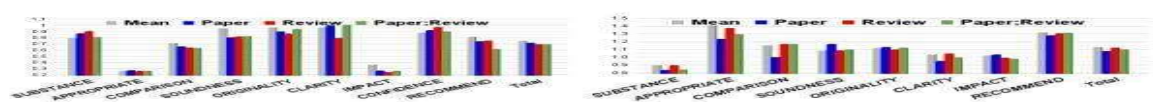
(/articles/522-a-dataset-of-peer-reviews-peerread-collection-insights-and-nlp-applications/)

A Dataset Of Peer Reviews (Peerread): Collection, Insights And NLP Applications
(/articles/522-a-dataset-of-peer-reviews-peerread-collection-insights-and-nlp-applications/)

About US (/aboutus/) Careers (/careers/) Contact Us (/contact/) Faq (/faq/) Advertiser (/advertiser/)

Terms And Conditions (/terms/)