AI Deep Learning Architectures and Its Business Applications

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Description

It is amazing how Machine Learning can solve all kinds of intricate problems. In this presentation we are going to learn more about deep learning, a special kind of Machine Learning that are promoting a revolution in the businesses fields due to its accuracy and flexibility in dealing with a large variety of problems and situations. Deep Learning consists in the usage of Artificial Neural Networks with hidden layers in order to promote a vast amount of data transformation in the search of the best weights and relationships among the input variables. Some applications of these networks use time organized (time series) data to infer highly probable outputs.

Facts of AI

Artificial Neural Networks are modeled equations strongly based on the working model of human brain, its neurons, axons, dendrites and synapsis. A Artificial Neuron is basically a math function that weights its inputs and has a threshold for passing ahead information to another neuron connected in the artificial neural network. In this presentation, you are going to get to know some of the main kinds of deep learning architecture such as CNN, RNN, LSTM, GAN, Auto encoder, and its business applications. In this presentation, it will be also addressed the challenges in using Deep Learning application in face of the new regulation and also some of the main challenges for the quest of an Explainable AI.

In the field of Artificial Intelligence (AI), Deep Learning is a strategy falls in the more extensive group of Machine Learning calculations that takes a shot at the rule of learning. Profound learning models fundamentally works without human intercession and they are proportionate, and once in a while even, predominant than people. With the ascent of rising innovation, profound learning draws a consideration by numerous scientists and it is broadly utilized in a few regions including picture, sound and text examination. The paper talked about profound learning foundation, sorts of profound taking in designs and applications from various areas where scientists utilized profound learning models effectively.

Man-made brainpower comprises a lot of strategies that applied to create electronic models that makes machines to act like human master. AI, a piece of Artificial Intelligence worldview, comprises a method that makes machines to learn without anyone else dependent on experience. It makes empower machines ad libbed naturally after some time. Profound learning is a piece of AI and contains calculations that makes machine "to learn" in view of understanding to play out the allotted task, for the most part text, sound and picture acknowledgment. Profound learning was fundamentally presented in 1980s however it increases colossal ubiquity since 2006. As profound learning models require enormous number of shrouded layers and gigantic measure of marked preparing information, reasonable computational force is required. In most recent couple of years, machines with elite GPUs are accessible in advertise. Likewise, distributed computing and equal designs increases colossal notoriety.

The establishment of the idea of profound learning depended on counterfeit neural system research. The general case of the models work with profound design is a notable feed-forward neural systems or multilayer perceptron that comprises many shrouded layers. In the field of 1980, another calculation for learning the loads of these systems is Back-proliferation. A counterfeit neural system builds by comprising three layers of neurons: Input Layer, Output Layer and at least one Hidden Layers lives among Input and Output Layer. In Artificial Neural Network (ANN), a numerical capacity is utilized to speak to a neuron, a fundamental component of ANN. Neurons lives in each layer gets at least one qualities as an information, which are yield of past layers, aside from Input layer. A weight is normally doles out to each information and to ascertain entirety of these qualities, an enactment work is utilized. In profound learning, a profound neural system is utilized that has progressively number of concealed layers and that makes a neural system "profound". These numerous layers are utilized for include extraction and each layer utilizes yield estimation of past layer as an Input esteem.

There are two significant contemplations while working with the profound picking up: Processing is multilayer non-straight and learning structure can be directed or solo the well-known designs used to make profound learning models and talked about in this paper are Convolution Neural Network, Deep Belief Network and Recurrent Neural Network. For general characterization issues, Deep Belief Network is broadly utilized. Convolution Neural Network is one of the most well-known profound learning engineering utilized for order of picture, text and sound. Additionally, Recurrent Neural Network is utilized when information is more as consecutive.

Alexander Del Rey is CEO and founder of I2AI - International Association of Artificial Intelligence - Association to promote the acceleration of technologies linked to Artificial Intelligence by organizations around the world. He is also a founding partner of Engram, a consultancy specialized in Strategy, Innovation and Competitive Intelligence and of Negron, a startup in the energy segment that gives people and organizations access to distributed energy generation, and discounts on their electricity bills. Alexander is partner at D2i, a company that makes Data Analytics and Machine Learning projects and is an angel investor for startups like AgroInteli, in the agricultural sector and clean load, in the technology sector.

He has over 20 years of experience in multinationals such as Eaton, Siemens and Voith in Brazil, the United States, Germany and China, and is a speaker at Innovation, Technology, Competitive Intelligence, Strategy and Behavioral Economy events in Brazil, the United States, Canada and Europe (Portugal, Spain, France, Germany, England and the Netherlands). Alexander is also a professor at several Business Schools in Brazil, including FIA, StartSe, and Senac.