This is an example of acronyms, for example genetic algorithm (GA) is an interesting tool in artificial intelligence (AI) domain. We can use GA for generating parallel populations and solve AI problems.

Deep learning (DL) is a new area of research. Deep learning has evolved hand-in-hand with the digital era, which has brought about an explosion of data in all forms and from every region of the world.

Using the fraud detection system mentioned above with machine learning, one can create (for example) a deep learning example. If the machine learning system created a model with parameters built around the number of dollars a user sends or receives, the deep-learning method can start building on the results offered by machine learning (ML) to solve AI problems.

Each layer of its neural network builds on its previous layer with added data like a retailer, sender, user, social media event, credit score, IP address, and a host of other features that may take years to connect together if processed by a human being. Deep learning algorithms are trained to not just create patterns from all transactions, but also know when a pattern is signaling the need for a fraudulent investigation. The final layer relays a signal to an analyst who may freeze the user’s account until all pending investigations are finalized.

Most modern deep learning models are based on artificial neural networks, specifically convolutional neural networks (CNN) although they can also include propositional formulas or latent variables organized layer-wise in deep generative models such as the nodes in deep belief networks and deep Boltzmann machines.

In deep learning, each level learns to transform its input data into a slightly more abstract and composite representation. In an image recognition application, the raw input may be a matrix of pixels; the first representational layer may abstract the pixels and encode edges; the second layer may compose and encode arrangements of edges; the third layer may encode a nose and eyes; and the fourth layer may recognize that the image contains a face. Importantly, a deep learning process can learn which features to optimally place in which level on its own. (Of course, this does not completely eliminate the need for hand-tuning; for example, varying numbers of layers and layer sizes can provide different degrees of abstraction.

The word "deep" in "deep learning" refers to the number of layers through which the data is transformed. More precisely, deep learning systems have a substantial credit assignment path depth.

Deep learning architectures can be constructed with a greedy layer-by-layer method.[16] Deep learning helps to disentangle these abstractions and pick out which features improve performance.[1]

For supervised learning tasks, deep learning methods eliminate feature engineering, by translating the data into compact intermediate representations akin to principal components, and derive layered structures that remove redundancy in representation.

Deep learning algorithms can be applied to unsupervised learning tasks. This is an important benefit because unlabeled data are more abundant than the labeled data. Examples of deep structures that can be trained in an unsupervised manner are neural history compressors[17] and deep belief networks

With help of parallel processing algorithms (PPA) the AI can move forward.

It is the United states of America (USA)