

Artificial neural network



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The vision of making a device which could think like the human mind has always been the part of Science Fiction since time immemorial. In this process the first unforgettable breakthrough came with the concept of 'The Analytical Engine' which was developed by Charles Babbage in the mid 19th century. Since then the evolution of computers has taken various leaps. Today in the 21st century we are working with Supercomputer. The moulding of a simple calculator into a Supercomputer has been very startling. But still we have not completely achieved the main objective.

This is a reference to Artificial Neural Network which is altogether an emerging field. The only Neural Network we are aware of as of now is the Brain. Human is on his path to develop such a system which can learn itself. This gadget will be able to think and make decisions based on its already gained experience and knowledge. Def: An Artificial Neural Network is a structure composed of number of interconnected units, called Artificial Neurons, each of which has an input/output characteristics and implements a local computation or functionalities loosely based upon animal neuron.

The notion of computing takes various forms. Historically, computing has been dominated by concept of Programmed Computing, in which algorithms are designed and subsequently implemented using the current dominant architecture. An alternative viewpoint is needed when one considers the "computing" necessary in biological systems. For example, human brain is much different than aforementioned paradigm in that- The computation is massively distributed and parallel. Learning replaces a priori development. Taking these cues from nature, the new and biologically motivated computing paradigm of ANN has arisen.