**Abstract**

Speech recognition has been an active research topic for more than 50 years. Interacting with the computer through speech is one of the active scientific research fields particularly for the disable community who face variety of difficulties to use the computer. Such research in Automatic Speech Recognition (ASR) is investigated for different languages because each language has its specific features. Neural Networks are, in essence, biologically inspired networks since they are based on the current understanding of the biological nervous system. In essence they are comprised of a network of densely interconnected simple processing elements, which perform in a manner analogous to the most development of neural networks, and a basic introduction to their theory is outlined in this elementary functions of a biological neuron. Reduced connectivity neural networks are discussed and the scaly architecture neural network is described. Various algorithms are available to perform this time alignment of the input pattern to the neural network and the performance of the neural network is dependent upon the performance of the time alignment algorithm used. In this chapter, the various types of time alignment algorithms are described and their operation is outlined in detail.