**ABSTRACT**

Deep learning is an emerging research area in machine learning and pattern recognition field. Deep learning refers to machine learning techniques that use supervised or unsupervised strategies to automatically learn hierarchical representations in deep architectures for classification. The objective is to discover more abstract features in the higher levels of the representation, by using neural networks which easily separates the various explanatory factors in the data. In the recent years it has attracted much attention due to its state-of-the-art performance in diverse areas like object perception, speech recognition, computer vision, collaborative filtering and natural language processing. As the data keeps getting bigger, deep learning is coming to play a key role in providing big data predictive analytics solutions. This paper presents a brief overview of deep learning, techniques, current research efforts and the challenges involved in it