Provide an overview of the recurrent neural network and compare it with the convolutional neural network?

Recurrent Neural networks (RNN) is a neural network model architecture to detect patterns in the sequence of data. The data can be any type like handwriting, time series, facial images etc. The best example can be stock markets data. The markets data is continuous and new set of data will be generated and it contains sequence in the data. Stock markets are the potential source of income (with proper discipline) by understanding the market movements. To make the life of the investor easier, RNN will help finding out the patterns in the data.

The major feature of RNNs is having loops within the architecture. These loops allow ANNs to retain information from previous inputs in the sequence and make effective tasks like NLP and speech recognition. RNNs includes hidden state that maintains a representation of past inputs and is updated with each new input. RNNs work on the persistence quality which means using previous memory to understand the current learning and makes decisions accordingly. RNNs are the chain like structures intimating sequences and list.