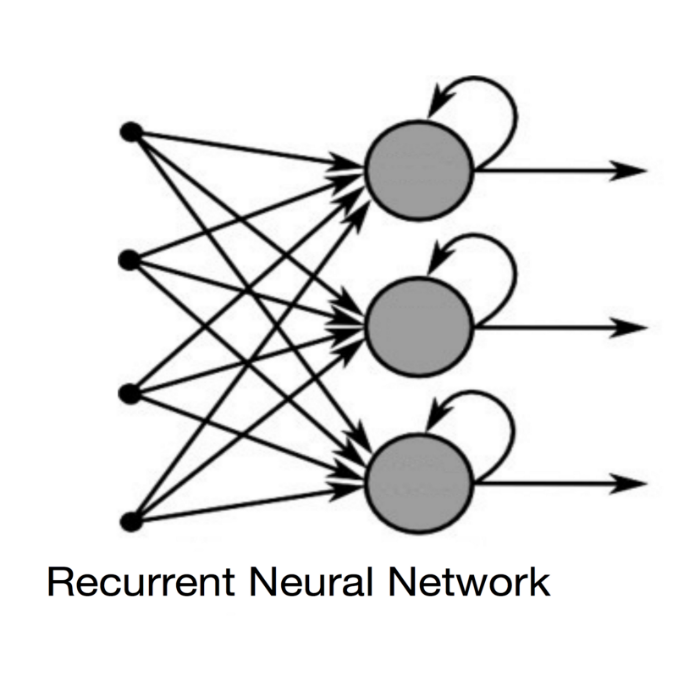
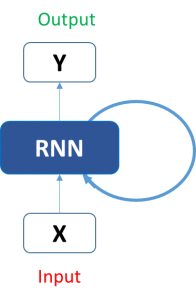
**Recurrent Neural Network**

Recurrent Neural Networks or RNN are robust and powerful types of neural networks which belong to the most promising algorithms present in today’s world because they are the only ones with an internal memory. Because of their internal memory, RNN’s are able to remember important things about the input they received, which enables them to be very precise in predictions. Recurrent Neural Networks produce predictive results in sequential data that other algorithms cannot predict.



Unlike the Light Gradient Boosting framework model (LGBM), RNN is a strong learner. The RNN model used consists of a three-layer fully connected network with 100 neurons in each layer. The activation function used is ReLU. The Backpropagation dropout in the model used is forty percent.

Like the other two models, the pre-processing for the RNN model is done using One Hot Encoding and K-Fold Cross Validation. As per the accuracy scores between the three models, the RNN model was found to be the most accurate with a Training Accuracy of 0.68 (epoch 15) and a Validation Accuracy of 0.6 (Metric Used: ROC-AUC scores).

The disadvantage of this model is the high possibility of gradient vanishing or explosion when using the activation function.