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Date:

Sec 02

Question 03

The update gate in GRU refers to the maintenance of historical data that is being preserved for the future, whereas the reset gate in GRU refers to the amount of data that is to be forgotten

GRU supports gating and a hidden state to control the flow of information. To solve that problem that comes up in RNN, GRU uses two gates; one is update gate & the other is reset gate. These combinations decide which hidden state information should be updated or reset the hidden state whenever needed.

The difference of the work flow of LSTM & GRU is that GRU's bag has two gates that are reset & update while LSTM has three gates that are input, output, forget. GRU is less complex than LSTM because it has less number of gates. If the dataset is small then GRU is prefferred otherwise LSTM for the larger dataset. GRU is built using a simpler architechture than LSTM. GRU does not have cell state as LSTM does. The values are transferred to the next state in GRU, and the quantity of old information or the amount of new information may be regulated more preciselу with GRU than LSTM.

When a small quantity of data is used, GRU is considerably quicker than LSTM when a large amount of data is used. GRU uses less traning parcametre and therefore uses less memory & executes faster than LSTM whereas LSTM is more accurate of a larger dataset. The recurrent layer of RNN's includes feedback loops, which allowes them to maintain substantial memory. Its difficult to train RNN to solve issues that take a long time and cause the gradient to degrade owing to the gradients loss function. Due to the time required for backpropagation in RNN, its slower than GRU which gives them advantage over RNN.