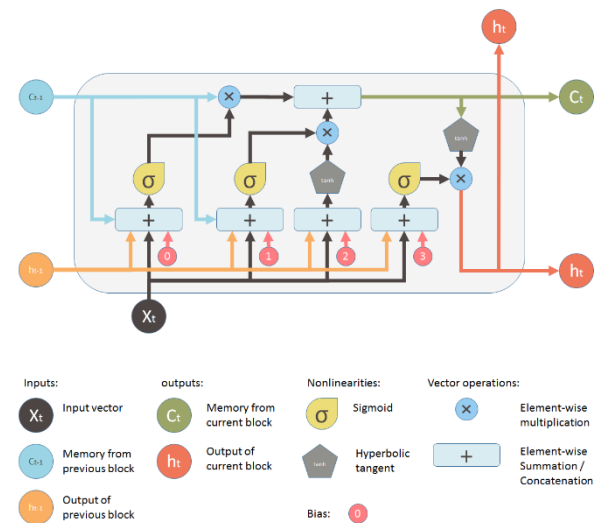


LSTM (Long Short Time Memory)

Even if it is not in a very deep structure in the classical RNN structures that we know, we can face the Vanishing Gradient Problem. The long sequence data that we see in the RNN structures causes the previous data to be forgotten.

How does LSTM solve this problem, let's talk about it briefly now.

There are certain gates in the LSTM structure. Thanks to these gates, important entries are allowed to pass through, while junk data is blocked from passing through.



Forget Gate

It is responsible for determining which information will be forgotten or which information will be transferred. For information that will be forgotten, the weight is given as 0. Thus, this information flow is interrupted.

Input Gate

It is decided which information will be stored in this gate. It is used for updating. It is connected to the Cell State.

Cell State

Its primary task is to transport information inside the cell. It carries the information to be transported to the end of the cell and from there to other cells.

Output Gate

It decides the value of information from the cell state that will be sent to the next layer. This value is used for estimation.