

NEURAL NETWORK


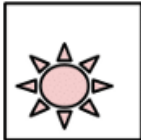

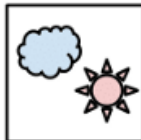





Regression



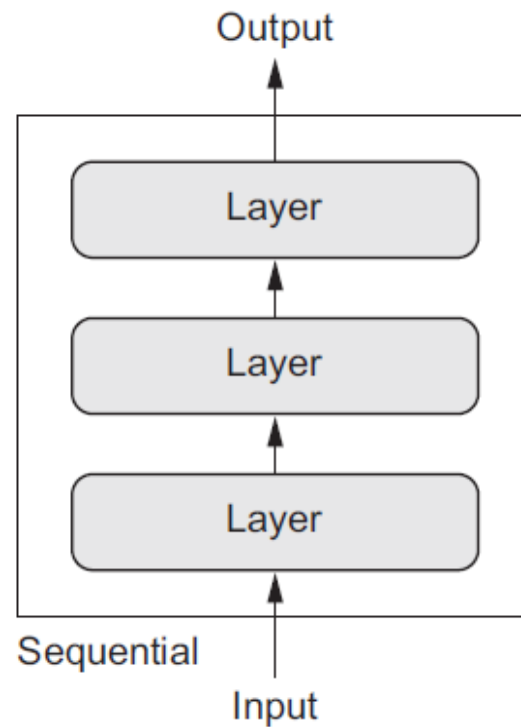
Functions and Parameters

- Activation Functions (last layer?)
- Metrics
- Network Structure
- Pre-processing

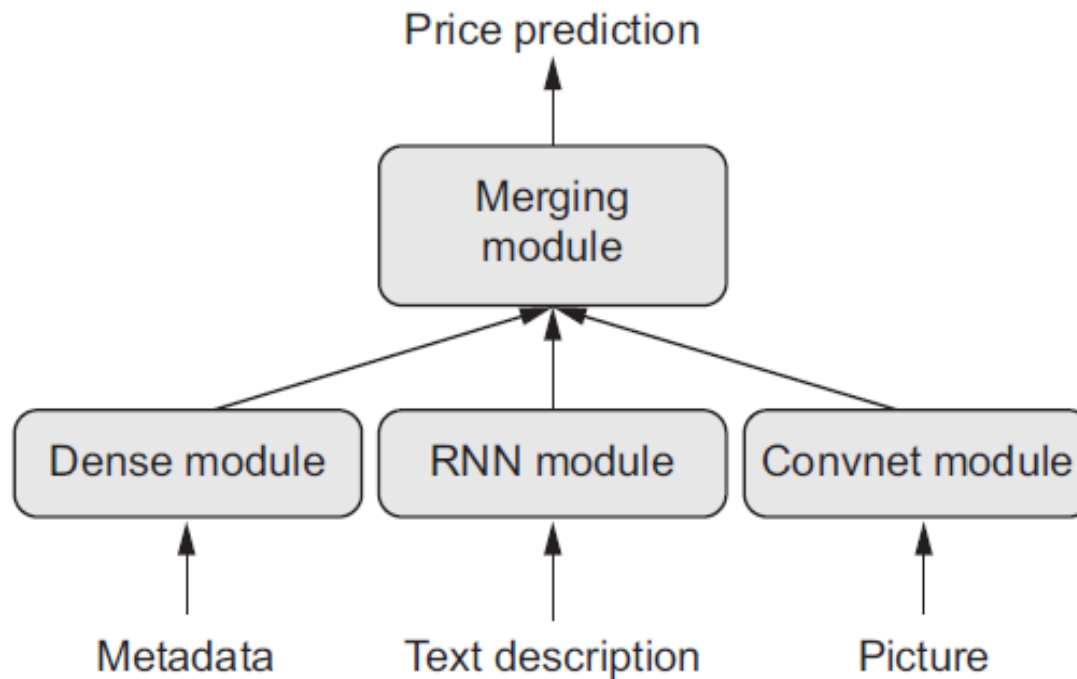
Multi Label Predictions

Multi-Class		Multi-Label	
C = 3	Samples	Samples	
	  	  	
	Labels (t)	Labels (t)	
  	$[0\ 0\ 1]$ $[1\ 0\ 0]$ $[0\ 1\ 0]$	$[1\ 0\ 1]$ $[0\ 1\ 0]$ $[1\ 1\ 1]$	

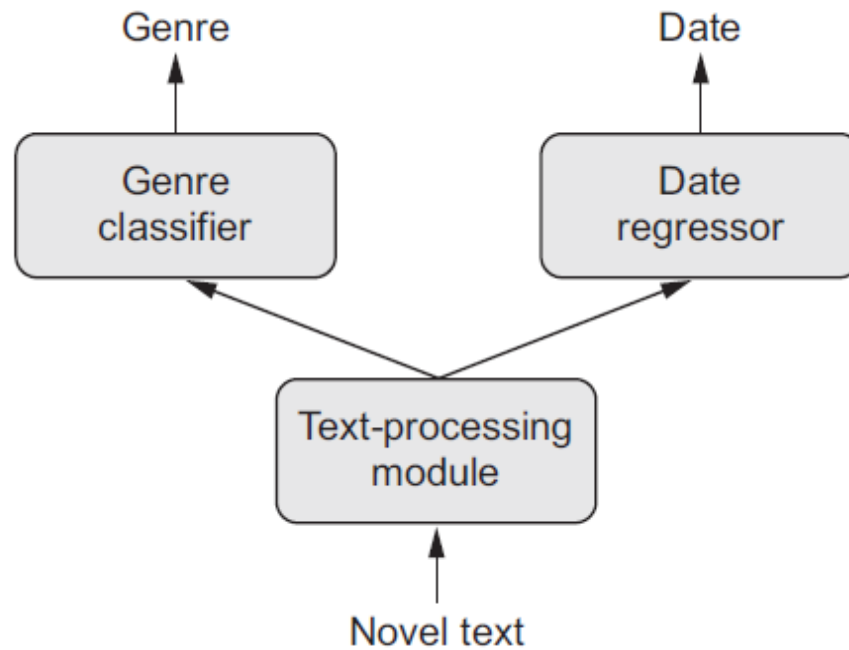
Sequential Model



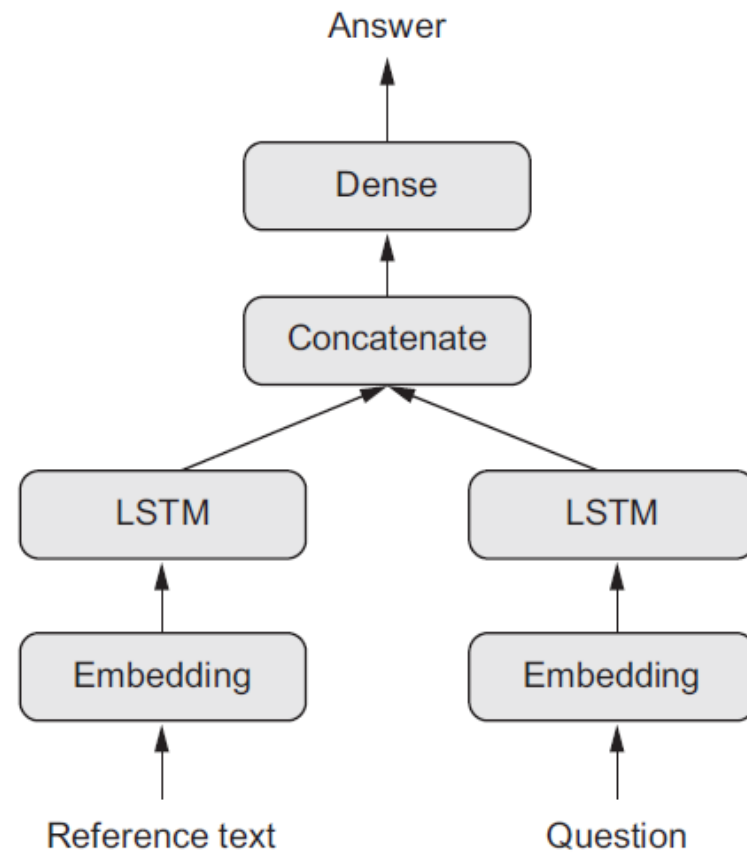
Functional Api



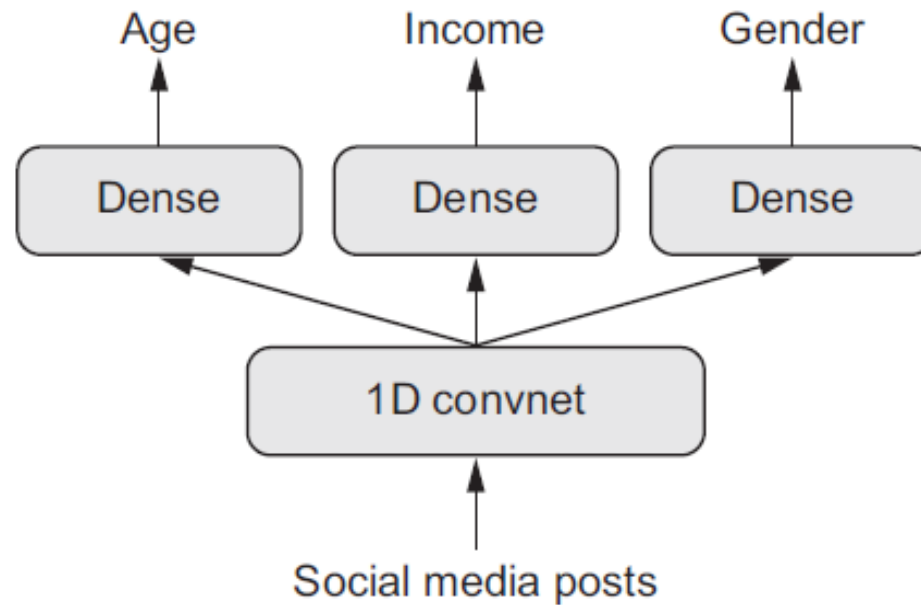
Functional Api



Functional Api

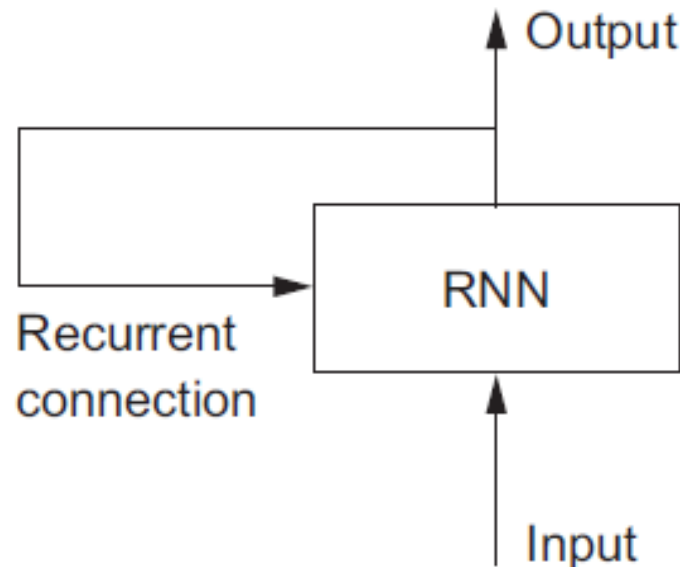


Functional Api

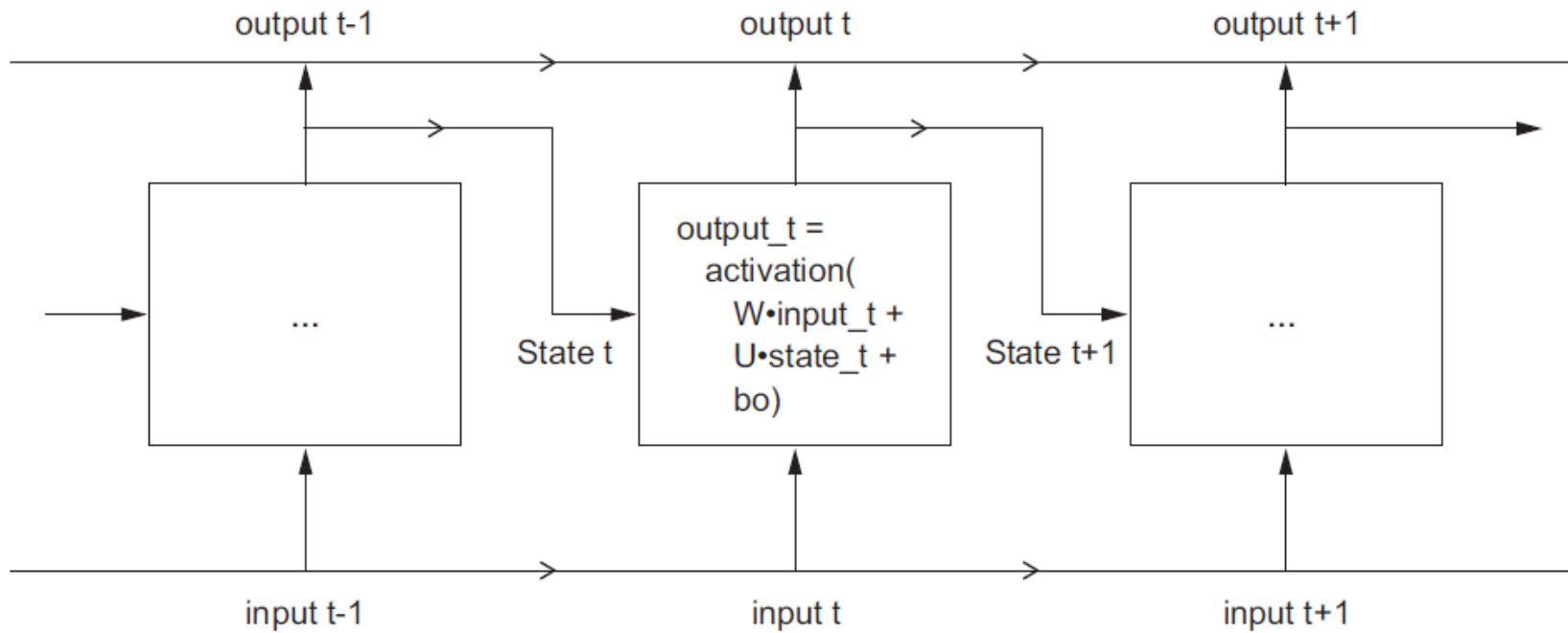


RNN

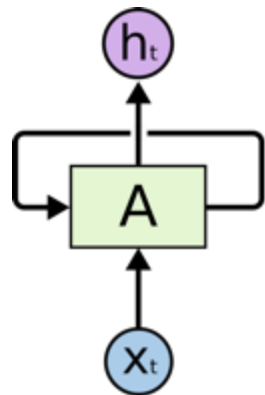
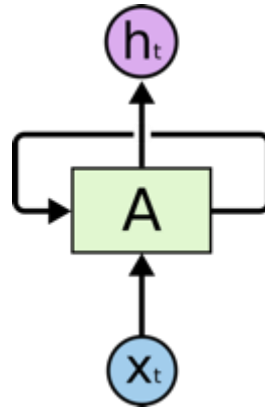
- Feed Forward Network ~no memory
- Perfect for “static” data
- What if we have a “sequence-type” data
- RNN ~ keep history in a “state”



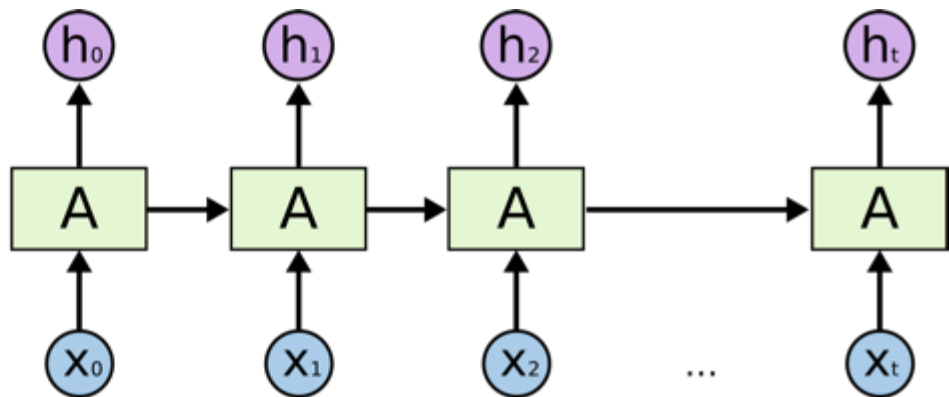
RNN



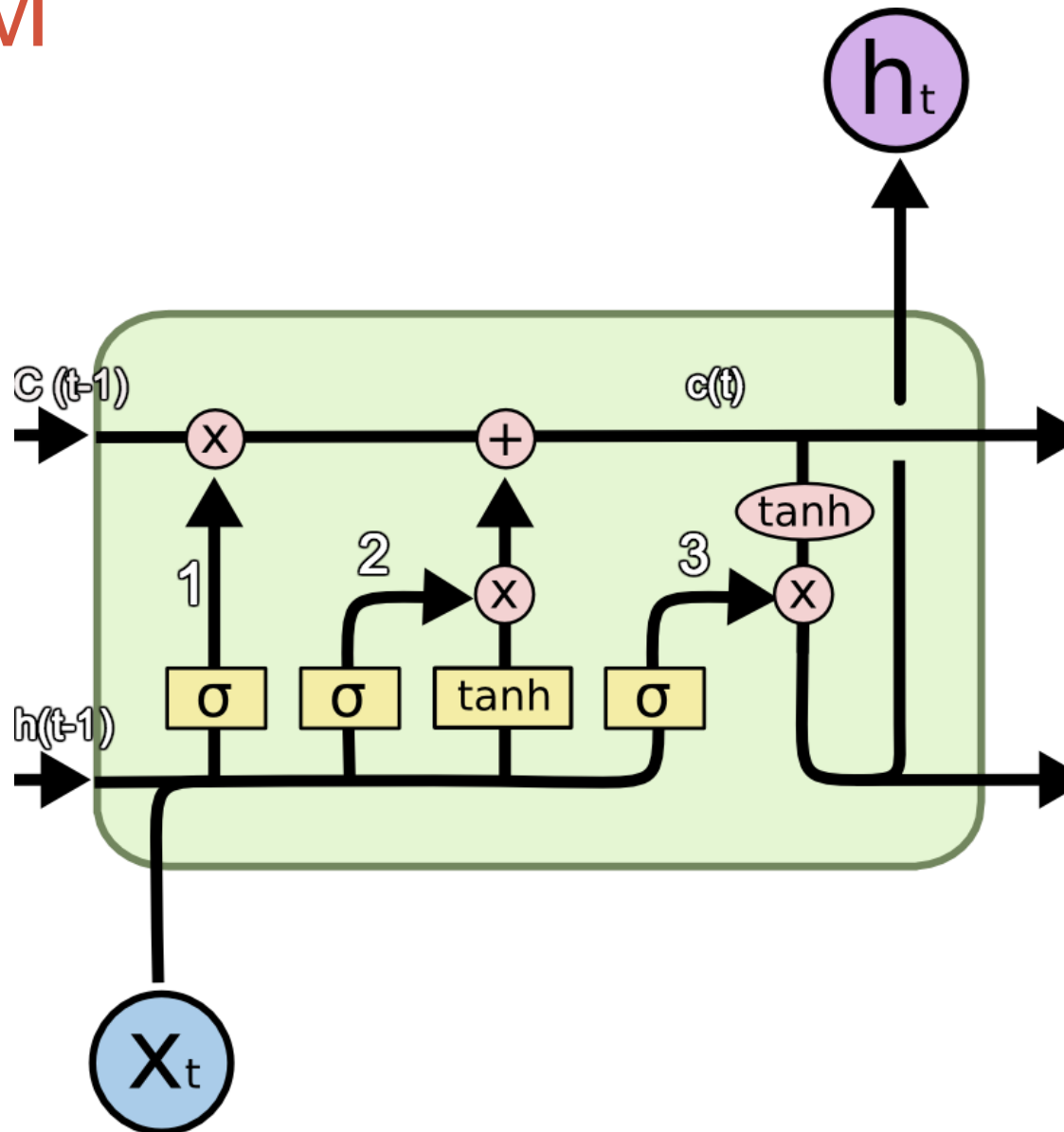
RNN



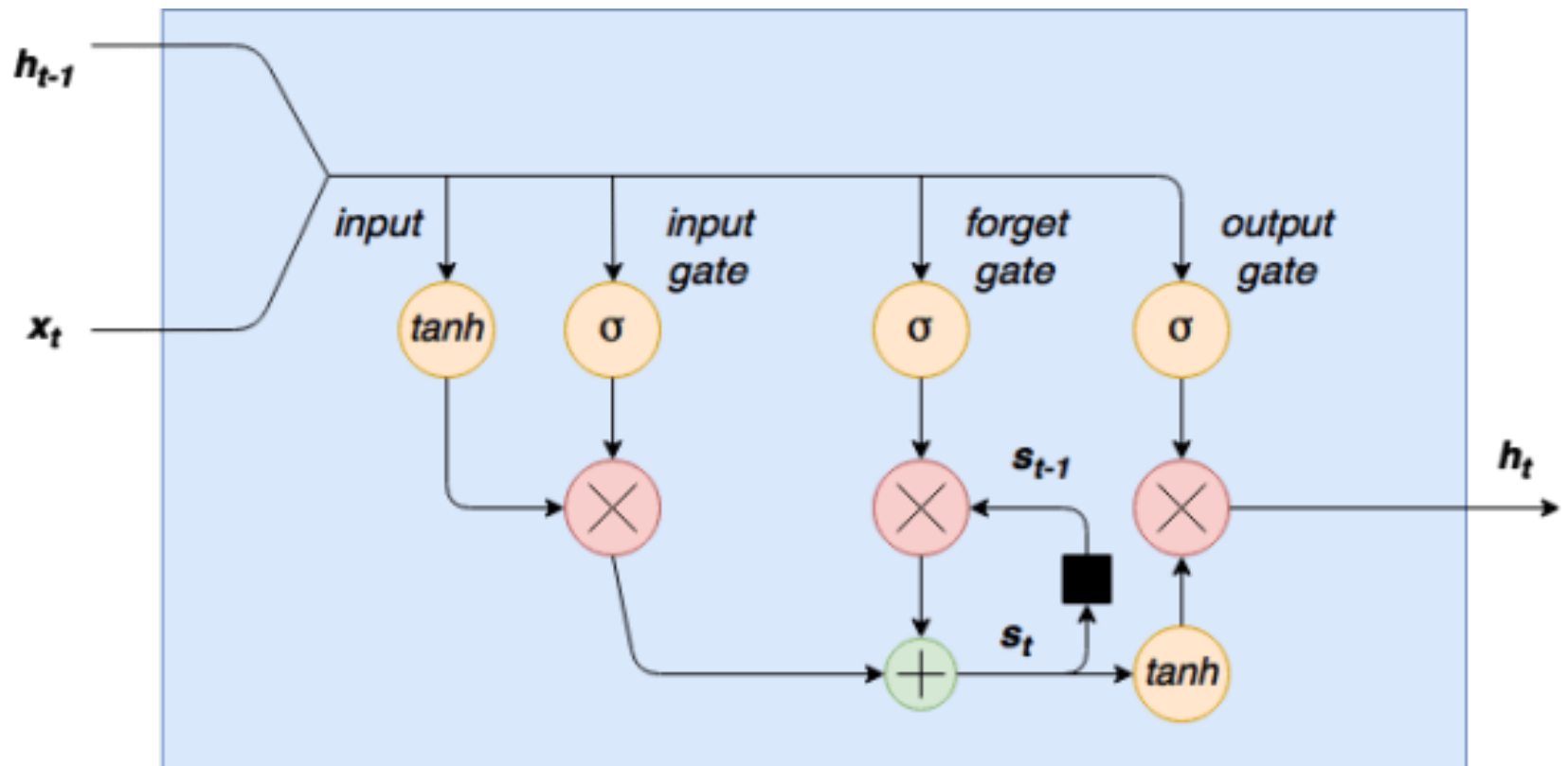
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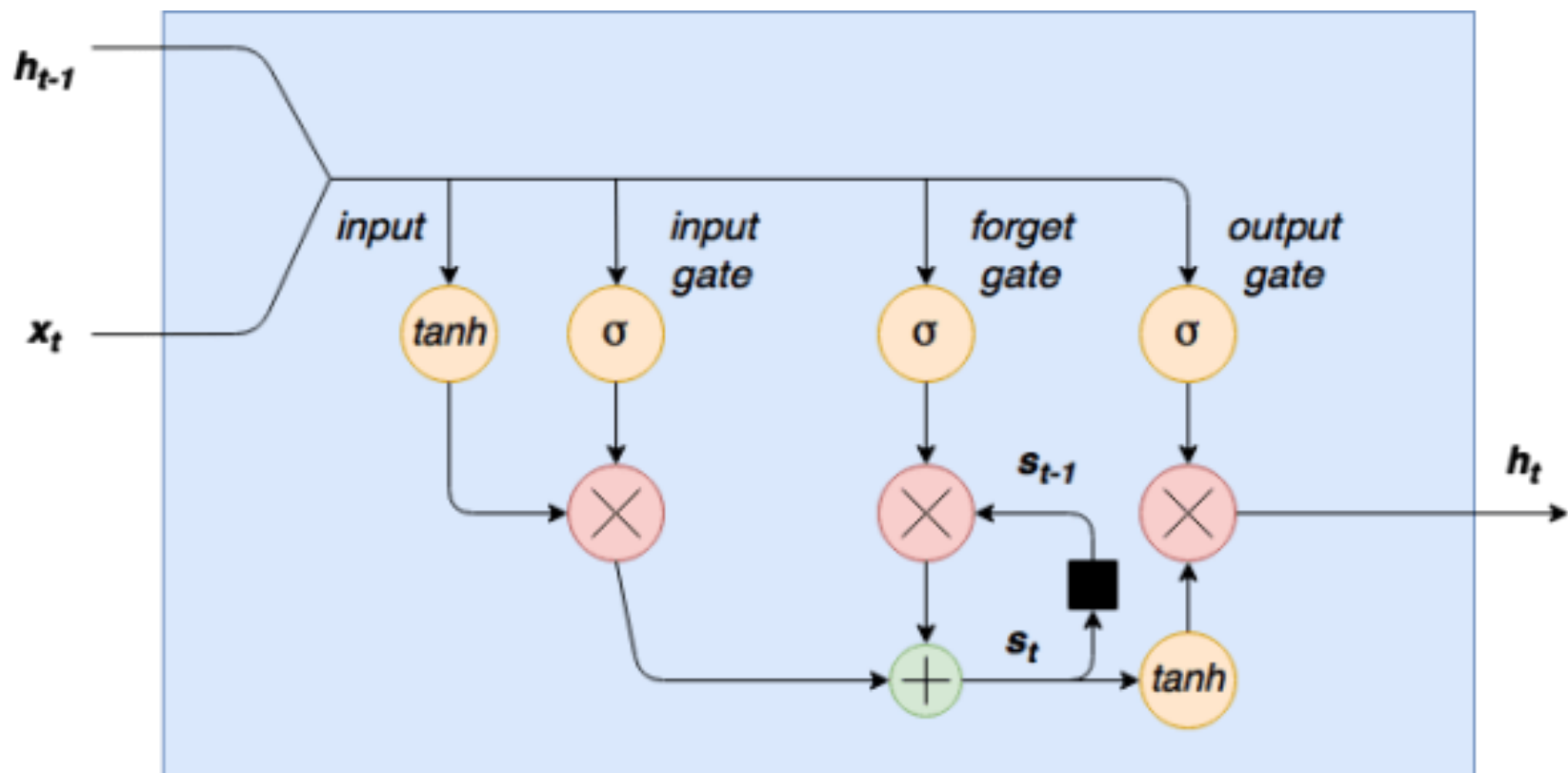
LSTM



LSTM



LSTM



LSTM

- Long term dependencies
- Ability forget and remember