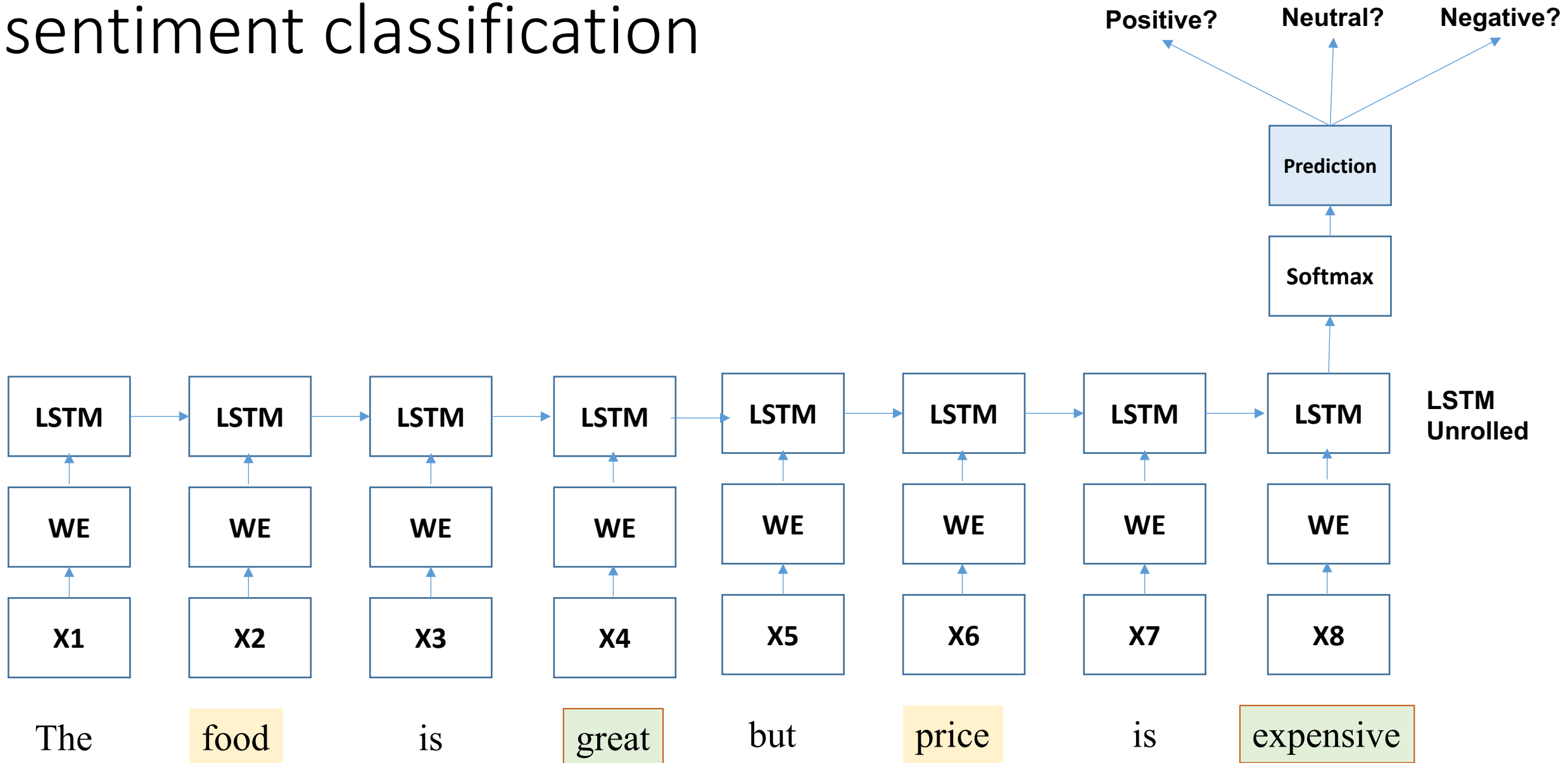


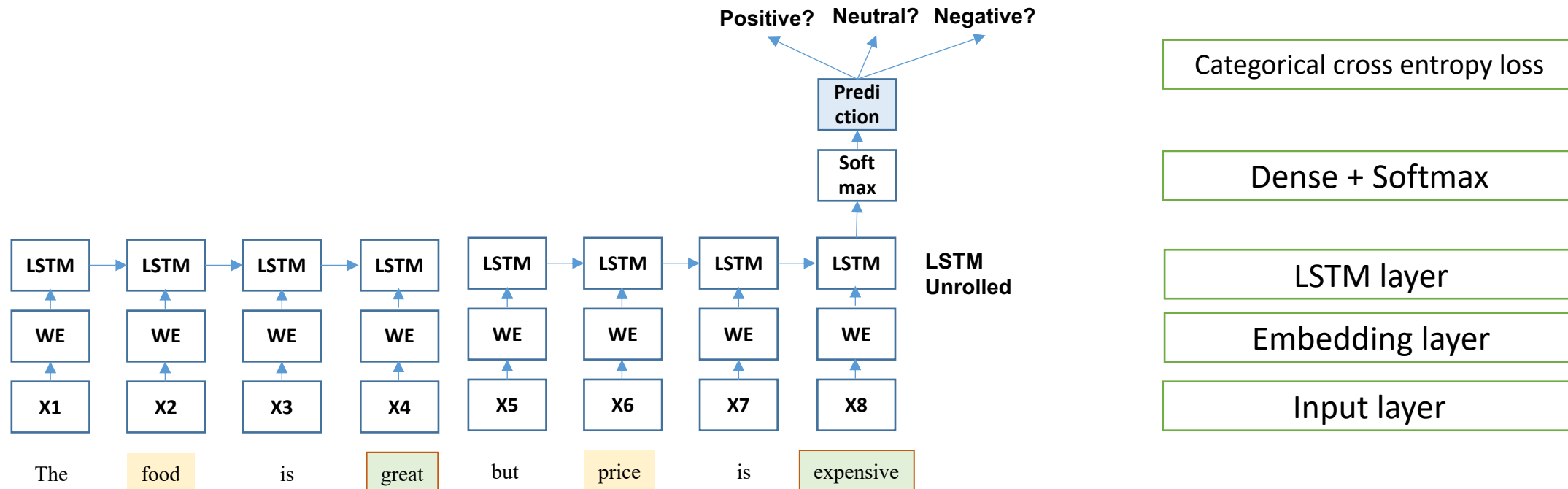
Practical 5.1

Document-level sentiment classification



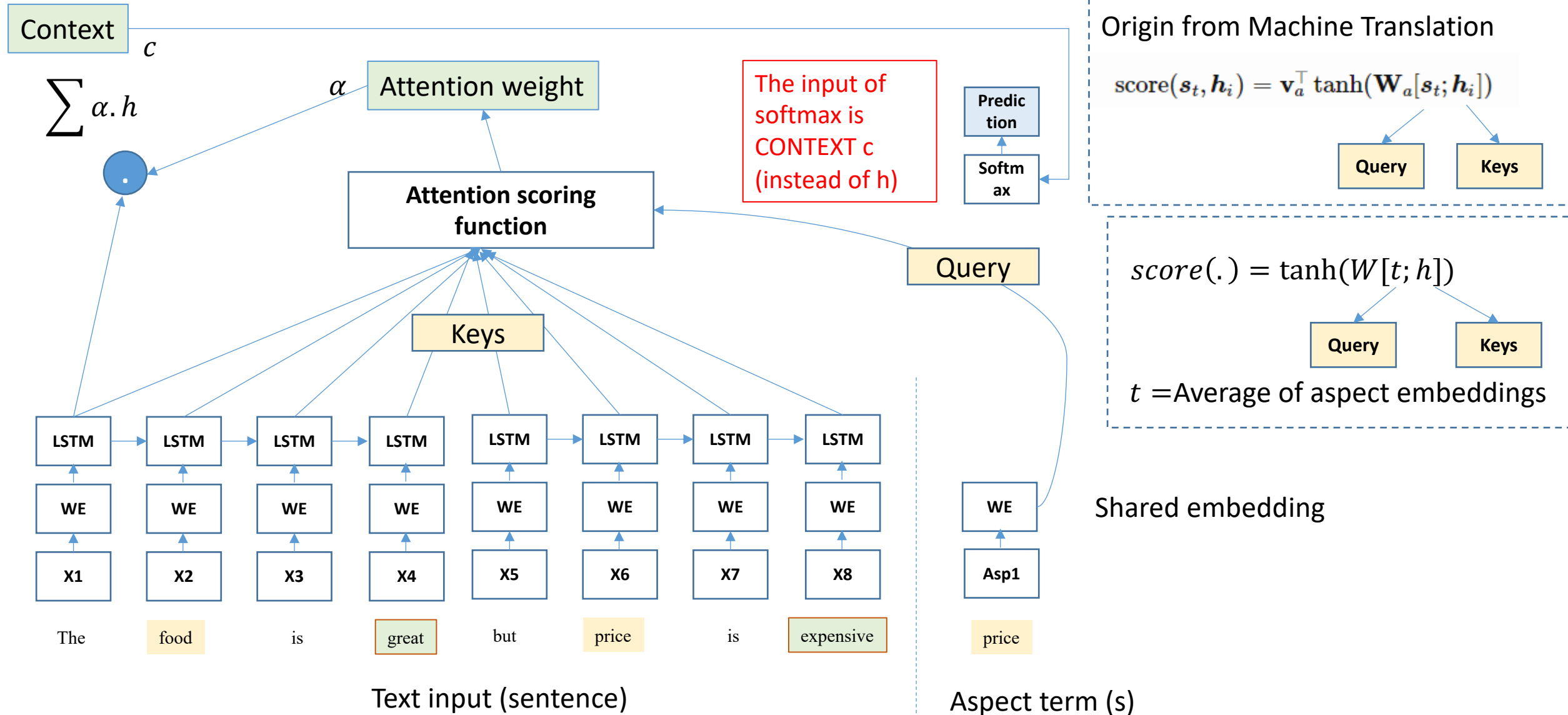
Document-level sentiment classification

How to implement it in keras?



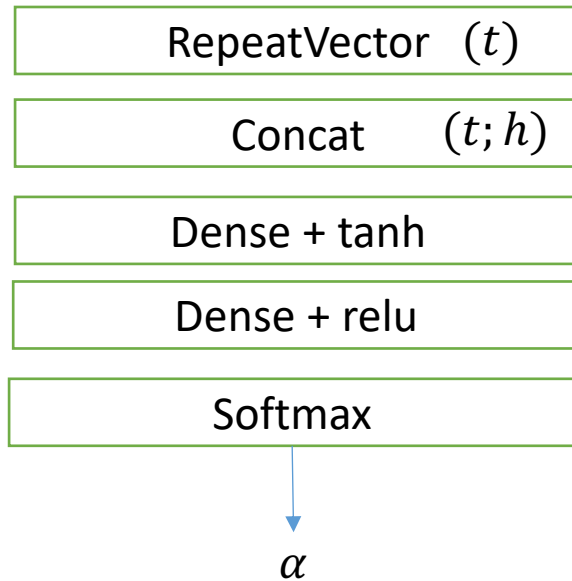
Aspect-level sentiment classification

How to implement it in keras? → Assignment 3

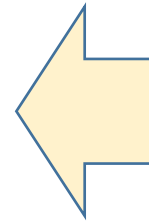


Attention Mechanism (Concat/MLP Attention)

How to implement it in keras?

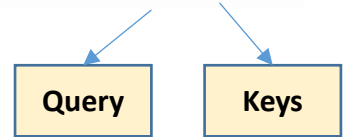


Duplicate t n times, n = sequence length



Origin from Machine Translation

$$\text{score}(s_t, h_i) = \mathbf{v}_a^\top \tanh(\mathbf{W}_a[s_t; h_i])$$



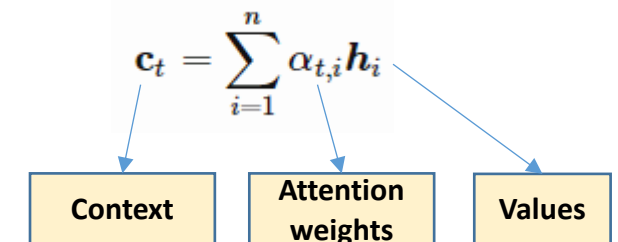
How to adopt it in sentiment classification?

$$\text{score}(\hat{t}, h) = v^T \tanh(W[t; h])$$



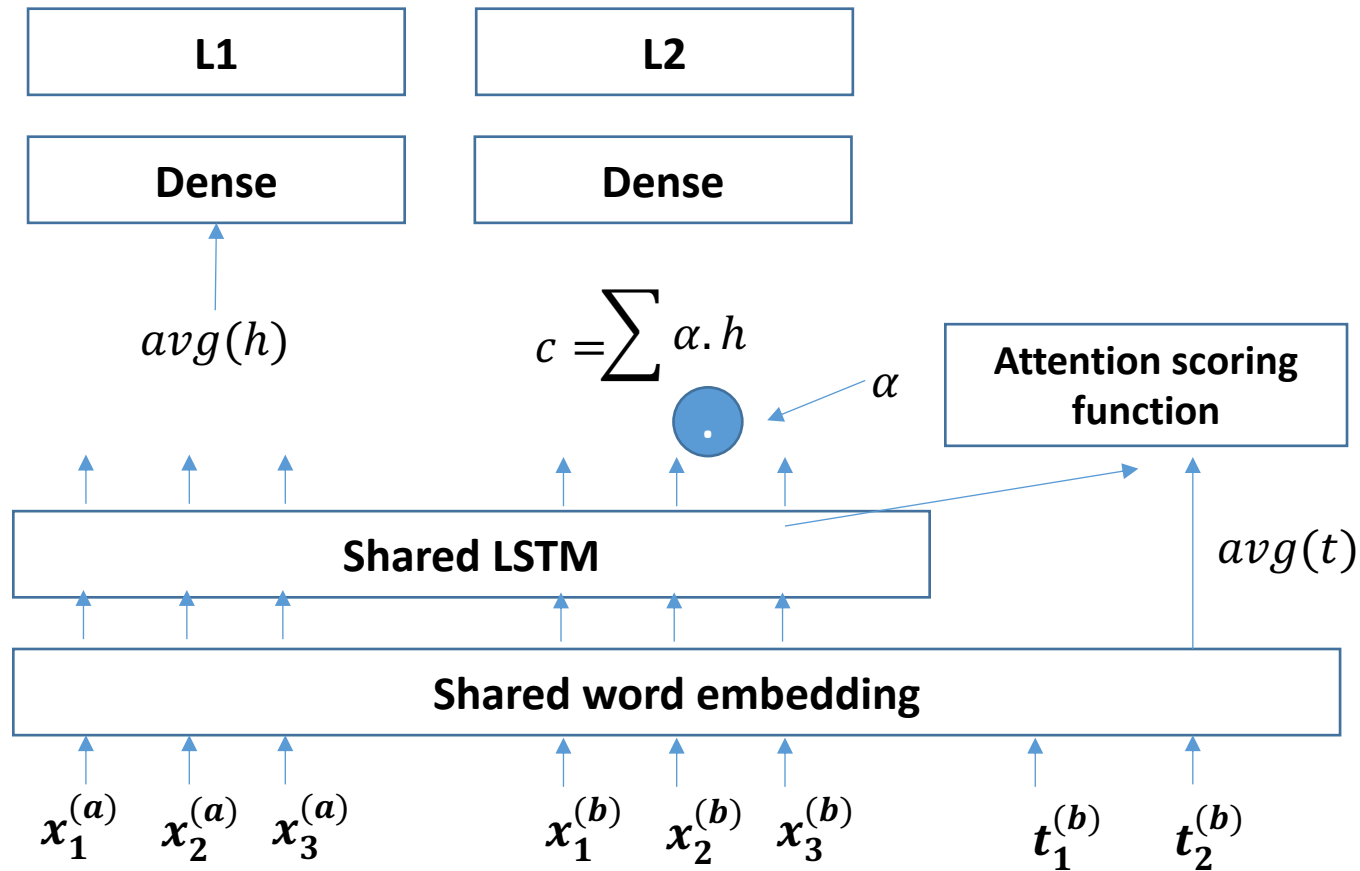
$$\alpha = \frac{\exp(\text{score}(s_{t-1}, h_i))}{\sum_{i'=1}^n \exp(\text{score}(s_{t-1}, h_{i'}))}$$

$$\alpha = \text{Softmax}(\text{score}(.))$$



Multi-Task learning (Aspect level + Document level)

Example code is given



$$score(.) = \tanh(W[t; h])$$

h = is LSTM states from aspect-level domain

Text from domain A

Document-level data set

Text from domain B

Aspect-level data set

Aspect terms from domain B

Aspect-level data set