Introduction to NLP (CS7.401)

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Machine Translation (contd.)

There are two main types of neural machine translation systems.

The first consists of sequence-to-sequence (seq2seq) models. These contain two RNNs, an *encoder* and a *decoder*. The encoder generates a representation of the source language sentence as a whole, which is converted by the decoder into a sentence in the target language.

The second approach is to identify "aligned" equivalents in parallel corpora (statistically). We use the co-occurrence counts of words in the source and target languages to find the probabilities that a given word translates into another given word.
These use attention mechanisms to maintain the context along with the translation.

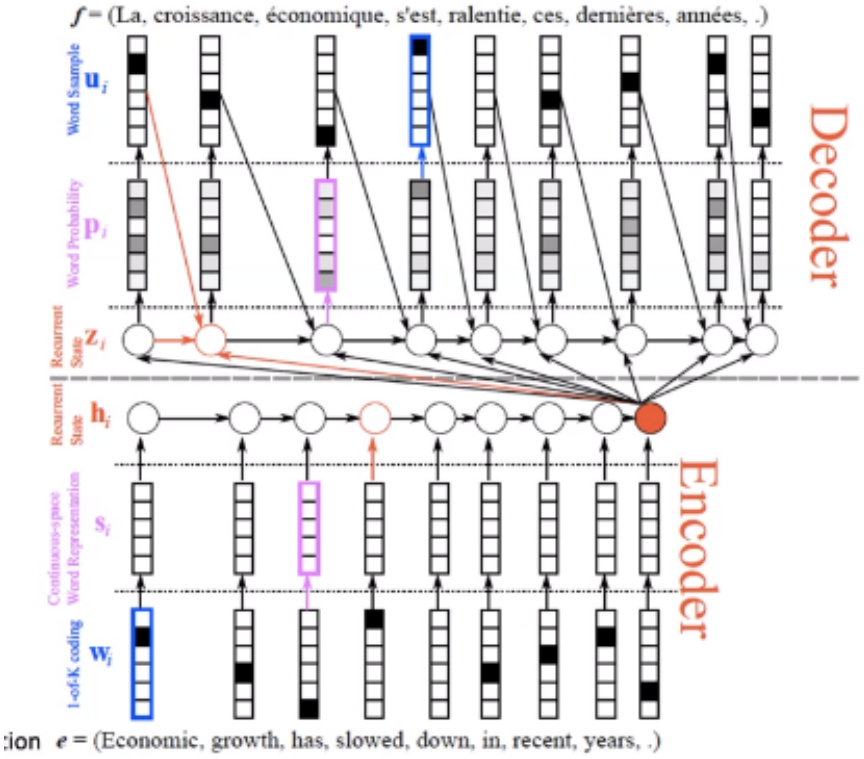

Figure 1: seq2seq Machine Translation

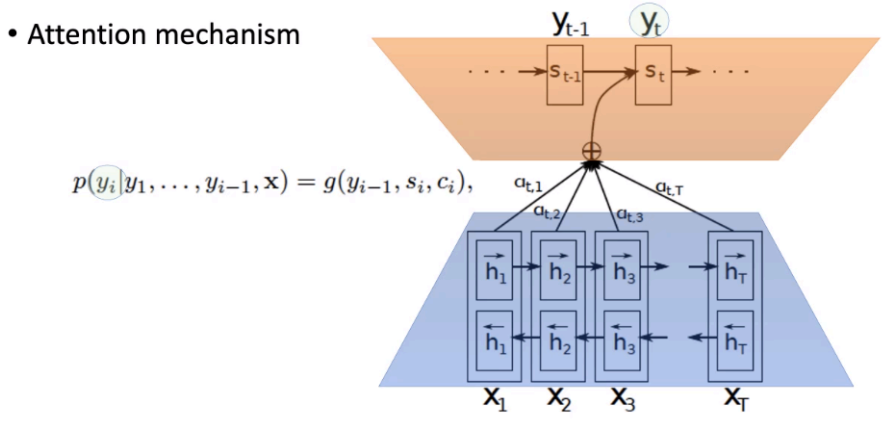

Figure 2: Attention Mechanism with BiLSTMs