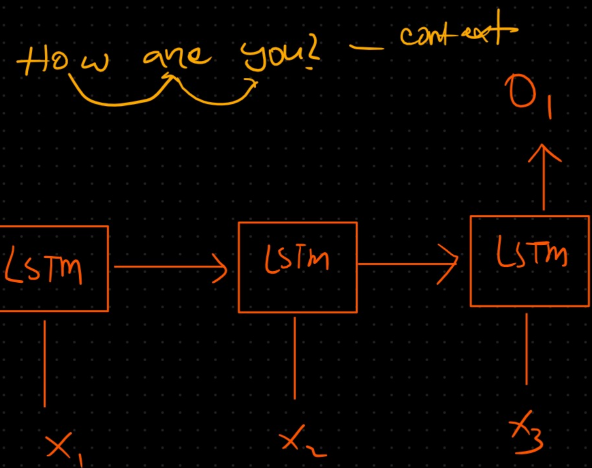
Agenda:

1. Sequence to sequence Learning
2. Encoder and Decoder Architecture / Intuition
3. problem with Encoder and Decoder
4. practical of Encoder, Decoder (Machine Translation) → Eng-Fra
5. BiRNN Intuition

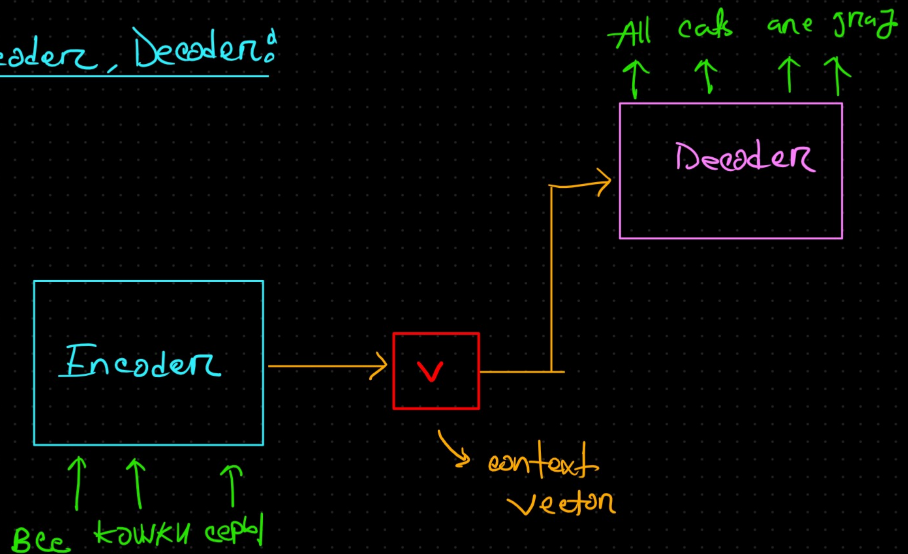


1. LSTM
2. GRU
3. BiRNN

⇒ Text classification

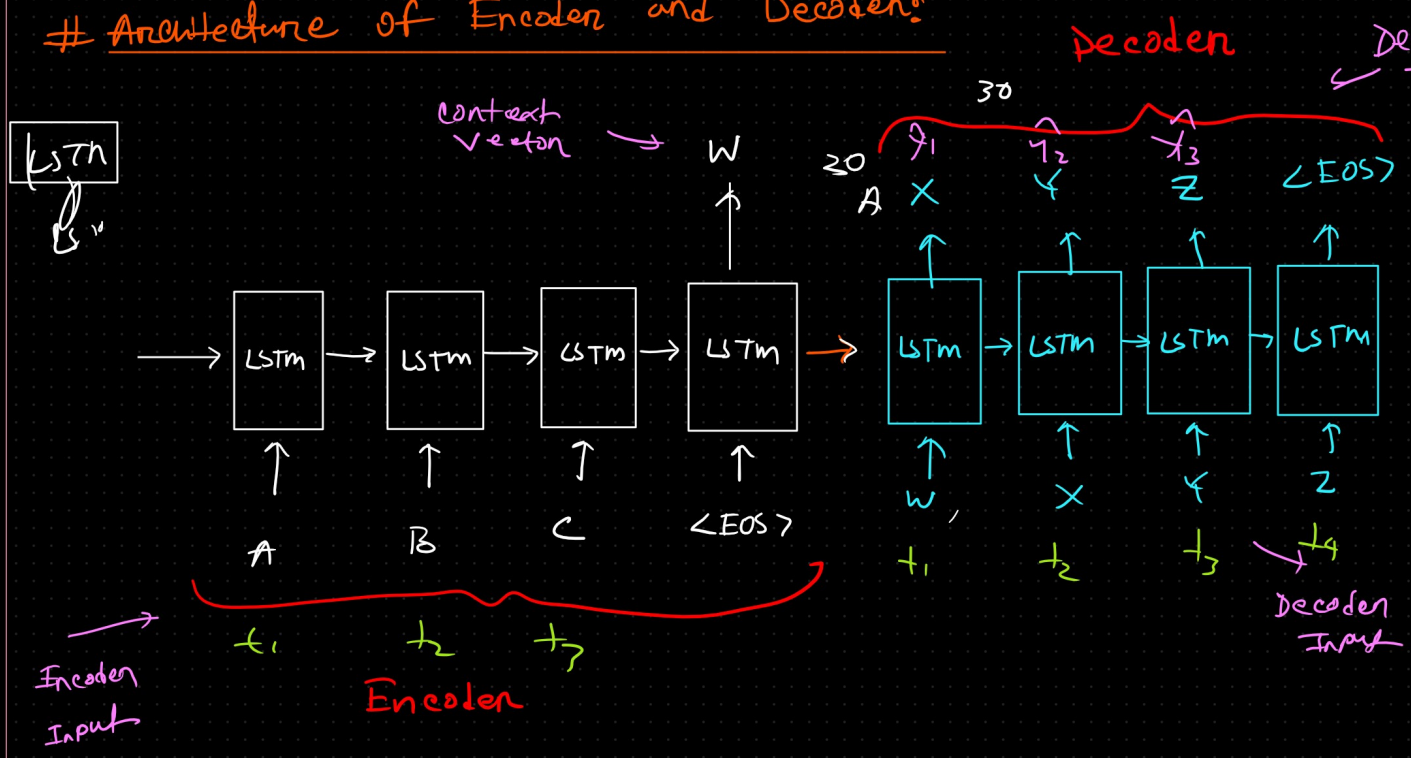
1. Translation
2. chatbot
3. summerization
4. QA
5. NER
6. IR

Encoder, Decoder:



WER — my name is Bappy resum SH
0 0 0 name

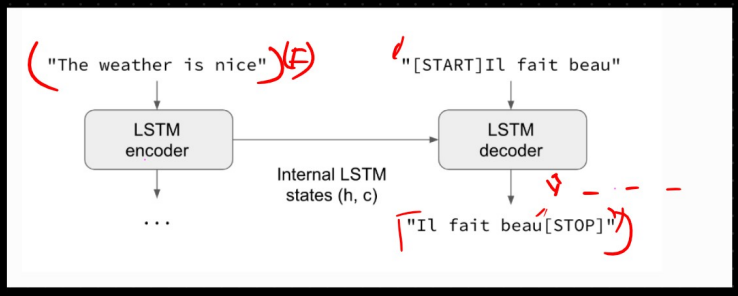
Architecture of Encoder and Decoder:



Trans → <S> <EOS>
→ (S //n)
—

<start> How are you <EOS>

How are u → comment vas-tu?



$(\hat{y} - y)$ Loss

BP

$(\hat{y} - y)$ loss

$x = \langle x_1, x_2, x_3 \rangle$ $y = (y_1, y_2, y_3)$

$x = \langle x_1, x_3, x_3 \rangle$ $y = (y_1, y_2, y_3, y_4)$

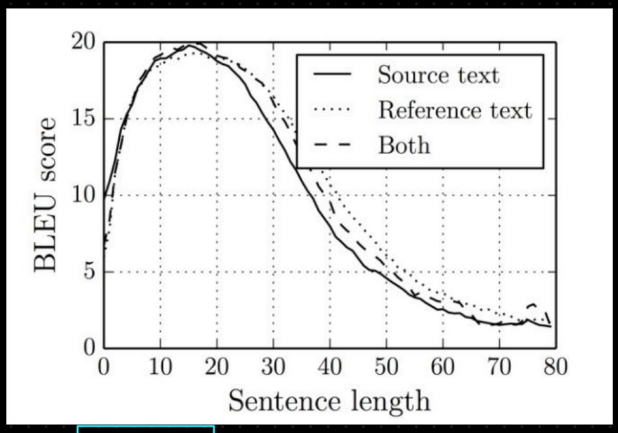
$\hat{y}_1, \hat{y}_2, \hat{y}_3$

$- y_1, y_2, y_2 \rightarrow 0$

loss → BP

problem with Encoder and Decoder:

→ Bleu score



→ Attention
self Attention
→ transformers

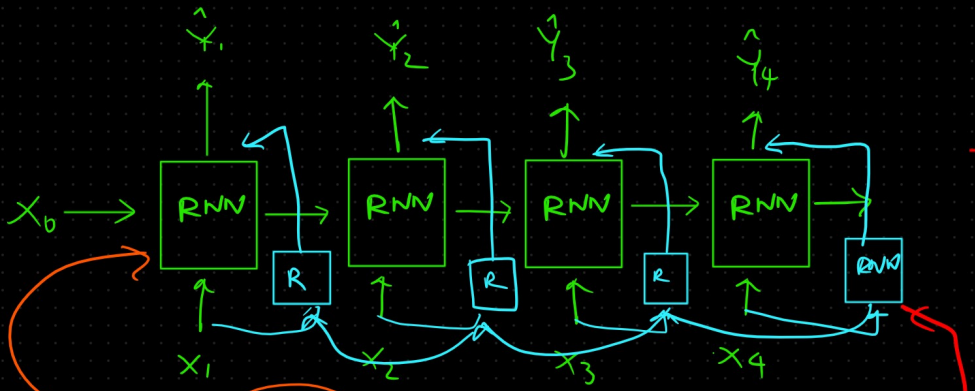
word

How are you

How are you ?

How	are	you
1	0	⬭
0	1	◯
◯	⬭	1

Bidirectional RNN/LSTM/GRU: (BiRNN BiLSTM, BiGRU):-



— BiRNN

Hello my name is

Attention mechanism

Bi RNN

What is your name ?

He likes eat Apple

SW - 3 → model

LSTM | FCD

Hi my name | is Happy. I | am a DS

S_1 S_2 S_3

Tommorow:

① Attention, Self Attention

② Attention is all you need → NLP

Google → Transformos

longer sequence

Internet

LLM

GPT, Bard, Robota, → Transtonmes

GPT – 2m

GP3 – 3b

C#