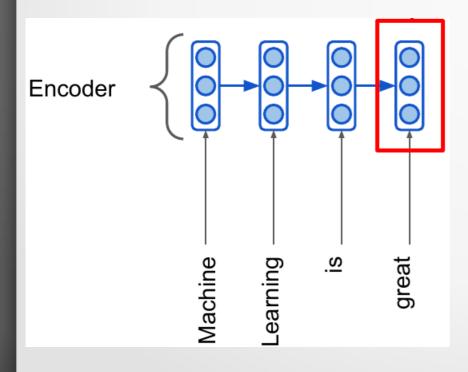
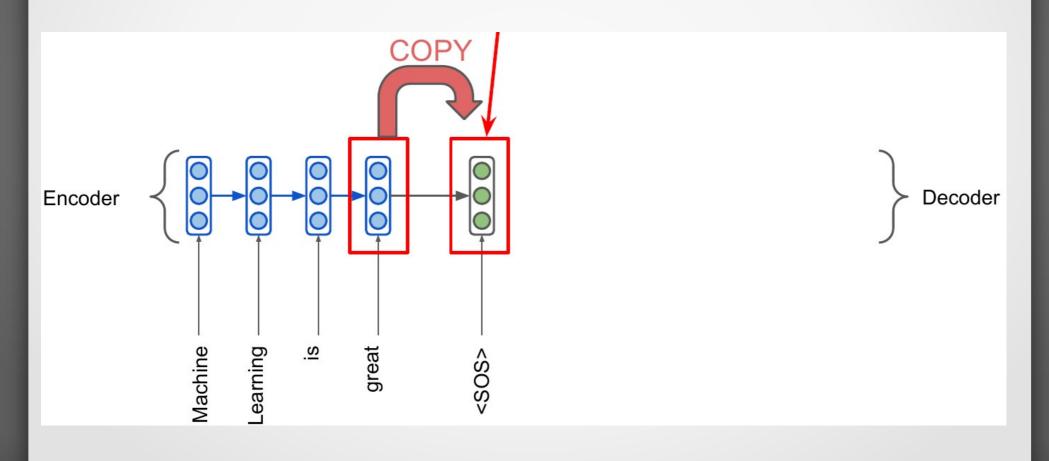
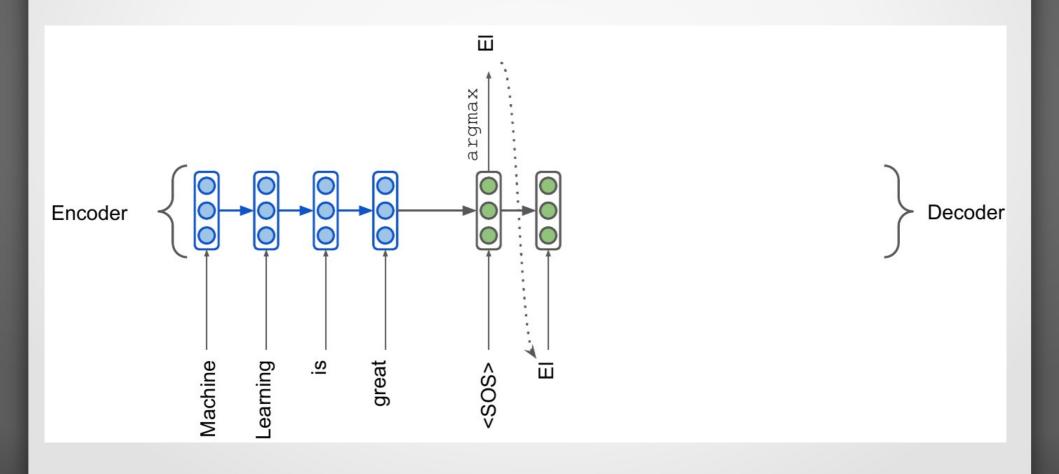
# Рекуррентные нейронные сети Seq2Seq и механизм внимания.

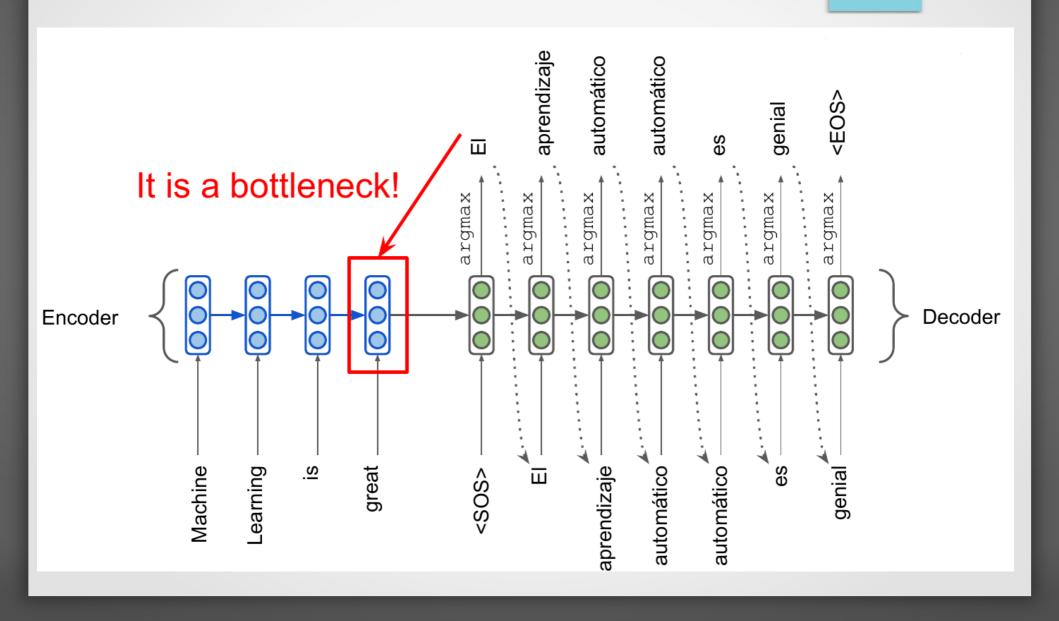
Евгений Борисов

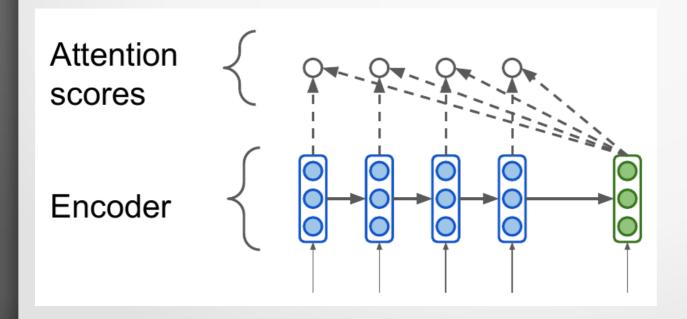


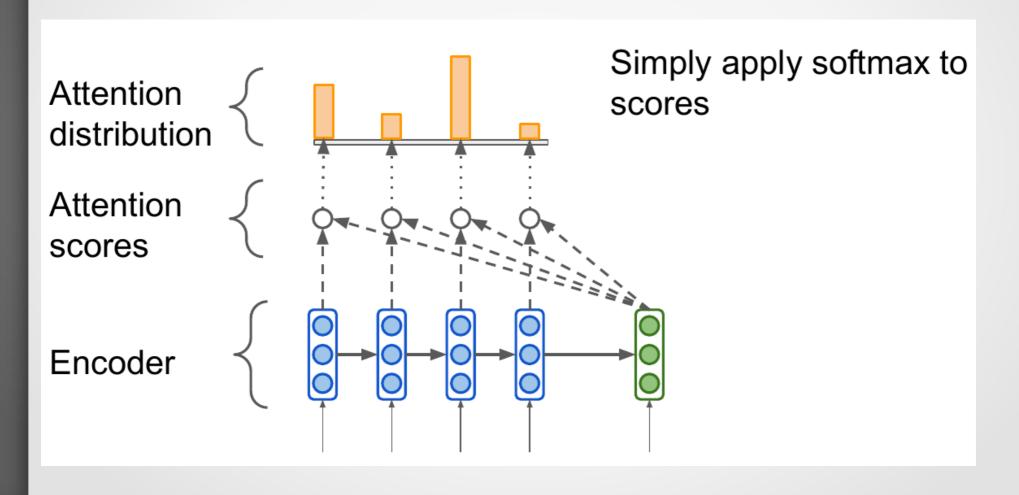


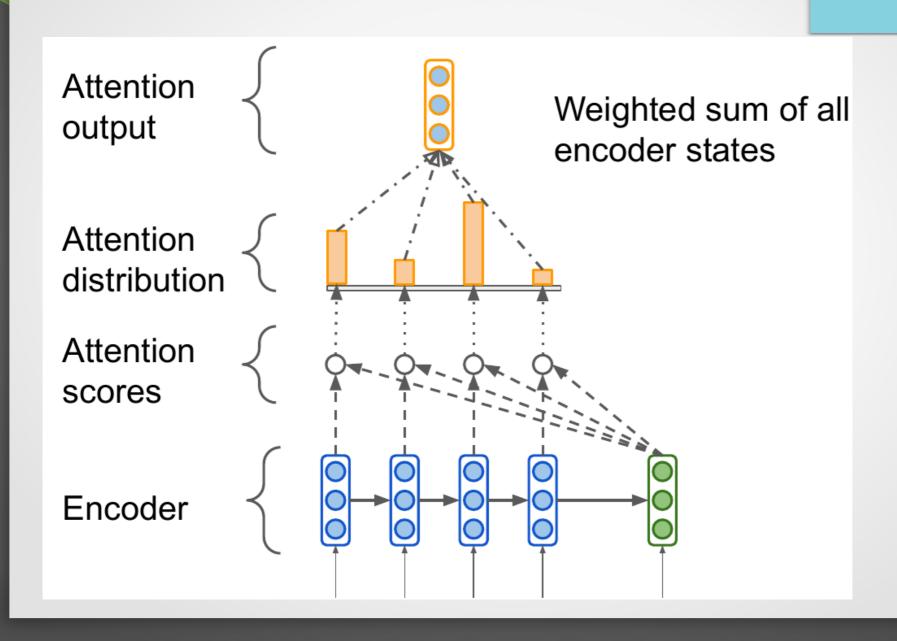


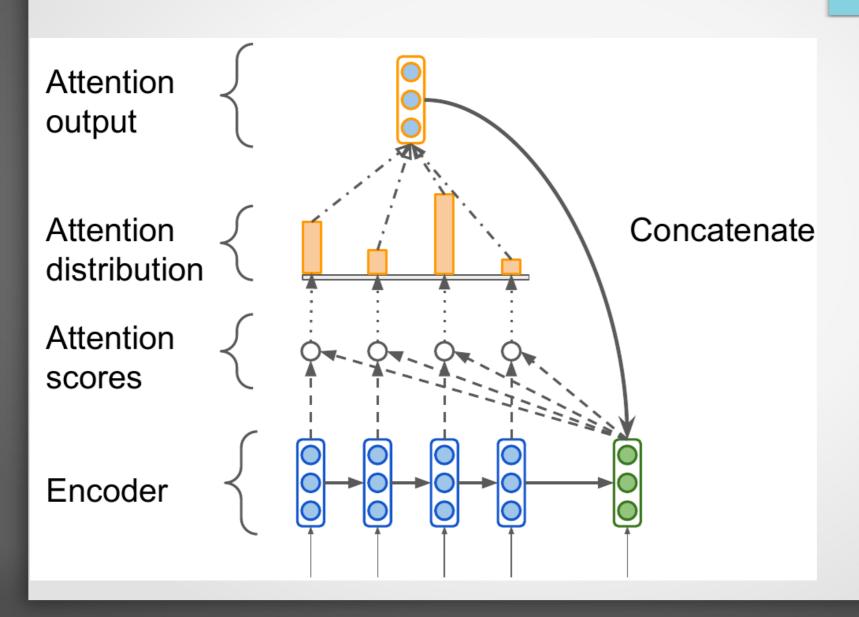


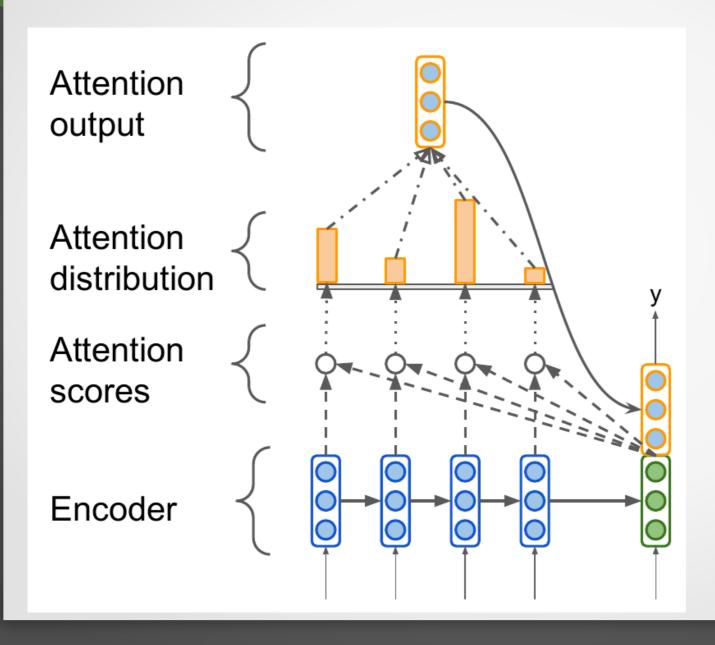


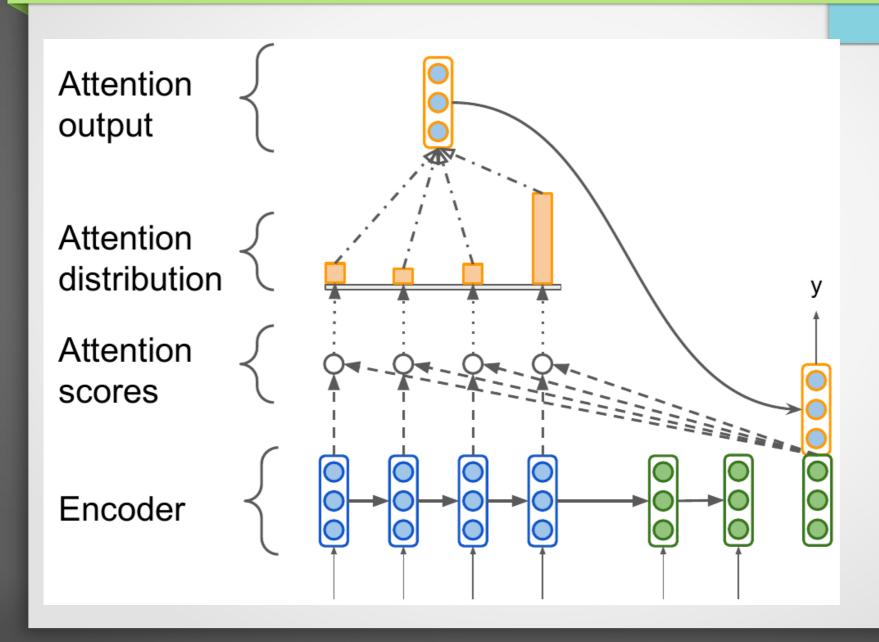


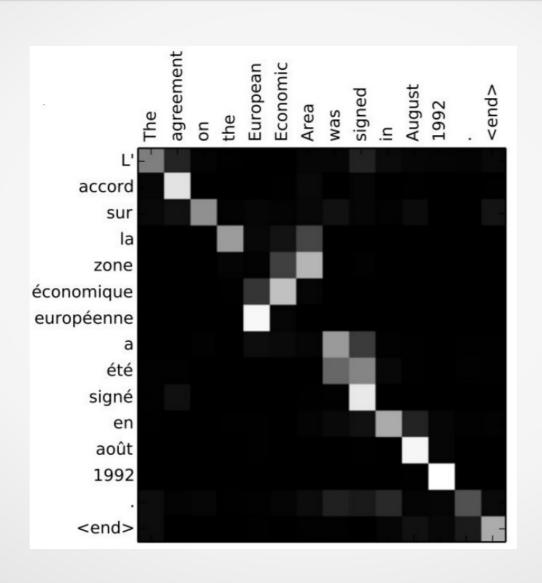












- ullet Basic dot-product (the one discussed before):  $oldsymbol{e}_i = oldsymbol{s}^T oldsymbol{h}_i \in \mathbb{R}$
- Multiplicative attention:  $e_i = s^T W h_i \in \mathbb{R}$ 
  - $\bigcirc$   $W \in \mathbb{R}^{d_2 \times d_1}$  weight matrix
- Additive attention:  $e_i = v^T \tanh(W_1 h_i + W_2 s) \in \mathbb{R}$ 
  - $\circ$   $W_1 \in \mathbb{R}^{d_3 imes d_1}, W_2 \in \mathbb{R}^{d_3 imes d_2}$  weight matrices
  - $\circ$   $v \in \mathbb{R}^{d_3}$  weight vector

#### SEQ2SEQ NMT: литература

git clone <a href="https://github.com/mechanoid5/ml">https://github.com/mechanoid5/ml</a> nlp.git

Евгений Борисов Неросетевой транслятор текстов. Использование рекуррентных нейронных сетей для создания систем машинного перевода и чатботов.

http://mechanoid.su/ml-chatbot.html

Евгений Борисов Рекуррентная сеть LSTM http://mechanoid.su/neural-net-lstm.html

Kyunghyun Cho, Bart van Merrienboer, Caglar Gulcehre, Dzmitry Bahdanau, Fethi Bougares, Holger Schwenk, Yoshua Bengio Learning Phrase Representations using RNN Encoder-Decoder for Statistical Machine Translation, 3 Sep 2014

https://arxiv.org/abs/1406.1078

Радослав Нейчев Прикладное машинное обучение. 3. Machine translation.

https://www.youtube.com/playlist?list=PL4 hYwCyhAvY7k32D65q3xJVo8X 8dc3Ye