

# Attention and Pattern Recognition

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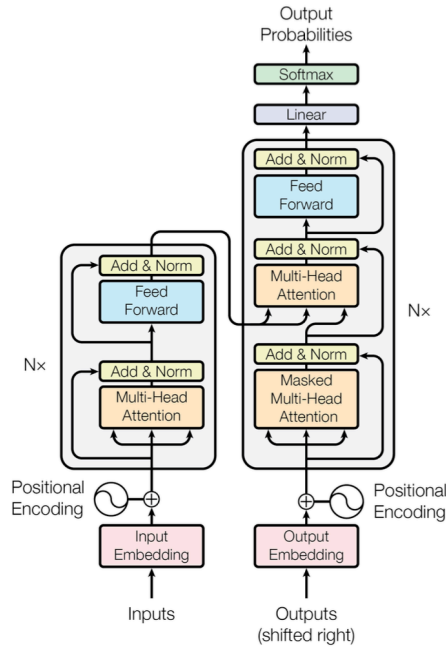
Some pertinent information from the paper:

<https://arxiv.org/abs/1706.03762>

## Brief Summary

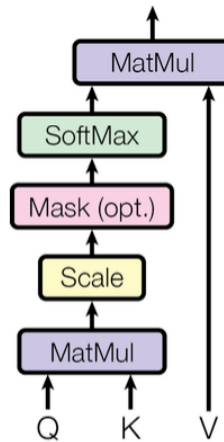
- We discussed the materials from the paper over this past week.
- As a sanity check, in what follows are the components we discussed.

# Overall Architecture

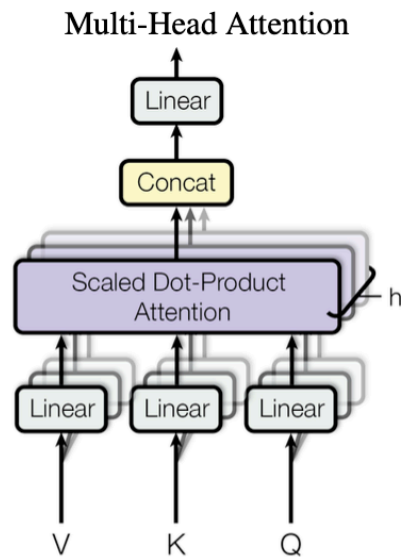


# A Single Attention Block

## Scaled Dot-Product Attention

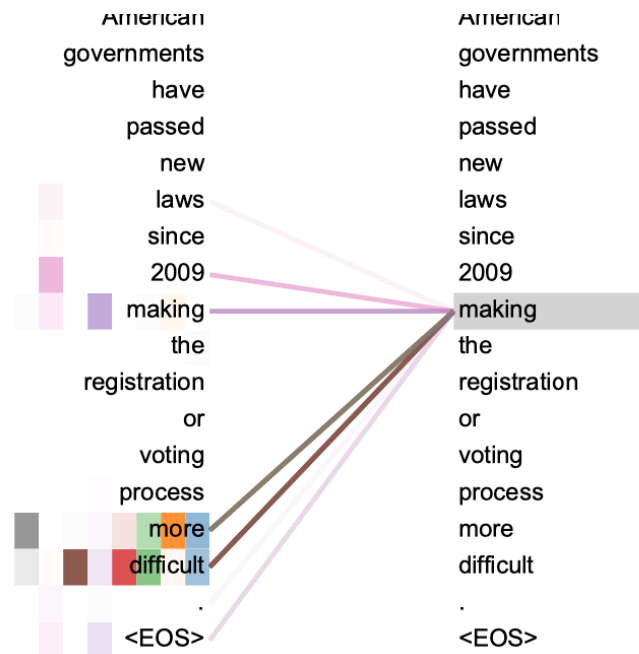


## Multi-head Attention



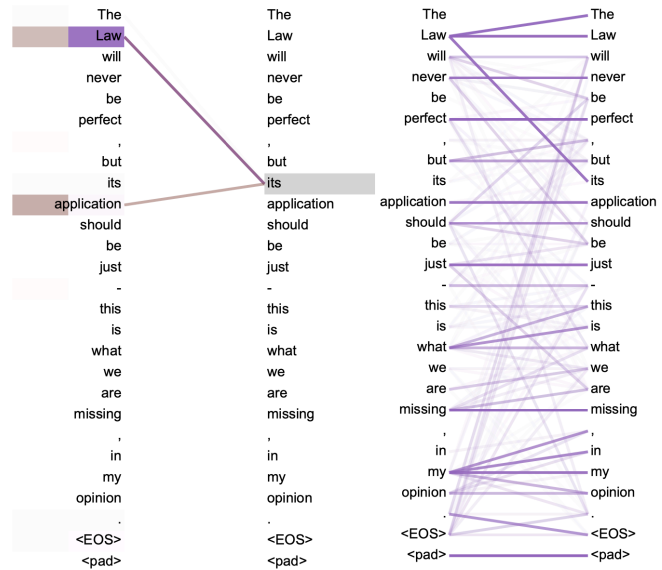
## Multiple Attention Heads pay attention to long-distance dependencies

- Different colors represent different heads.
- Attention is only shown for the word “making”



# Anaphora Resolution

- Far right: Full attentions for head 5.
- Right: Isolated attentions from just the word 'its' for attention heads 5



# Attention Heads Related to Structure of Sentence

