# Distinguished Engineering

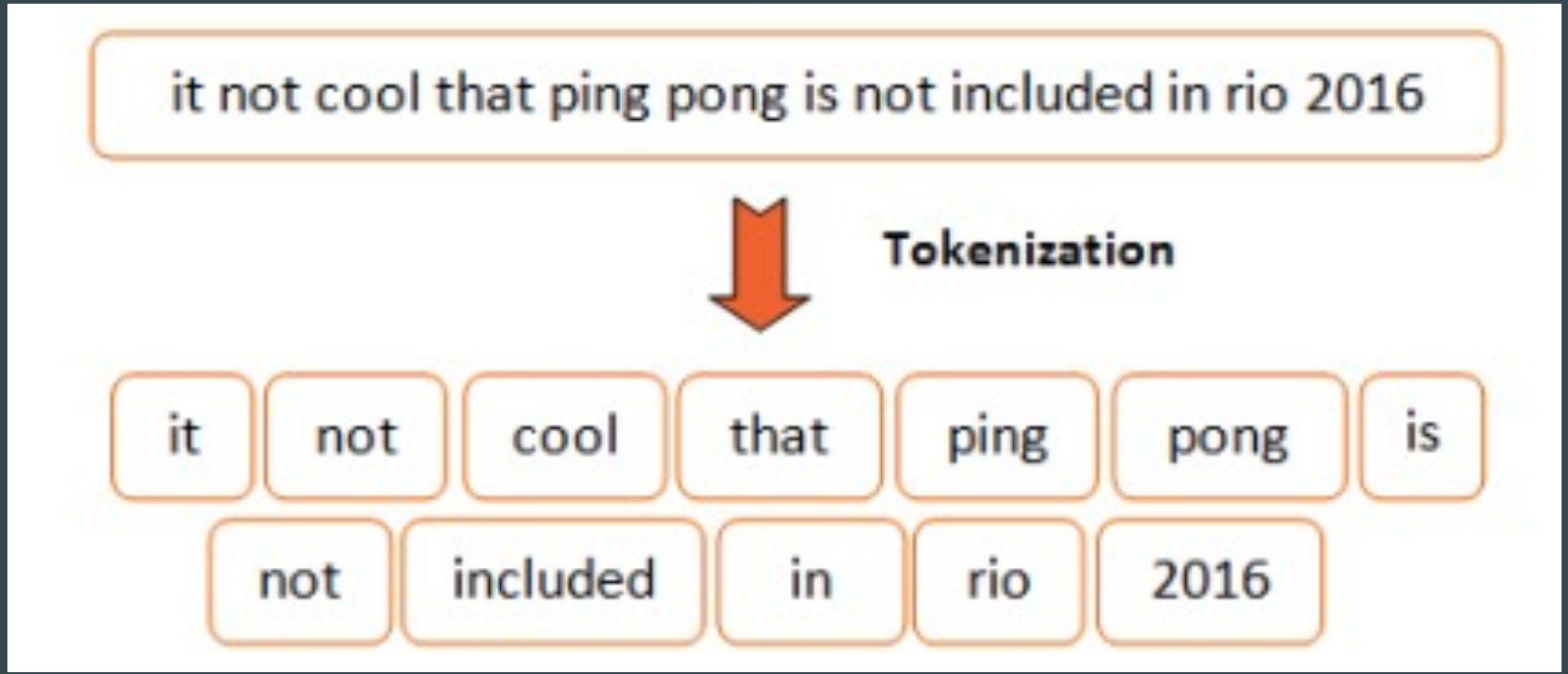
## Transformer 1/5
## - prologue, seq2seq
## •••

BW

# Plan

- Prologue, seq2seq
- Attention, please
- Transformer, a hew hope
- Transformer, revenge of the fallen
- Transformer, vision

# Tokenization




https://www.kaggle.com/code/funtowiczmo/hugging-face-tutorials-training-tokenizer/notebook

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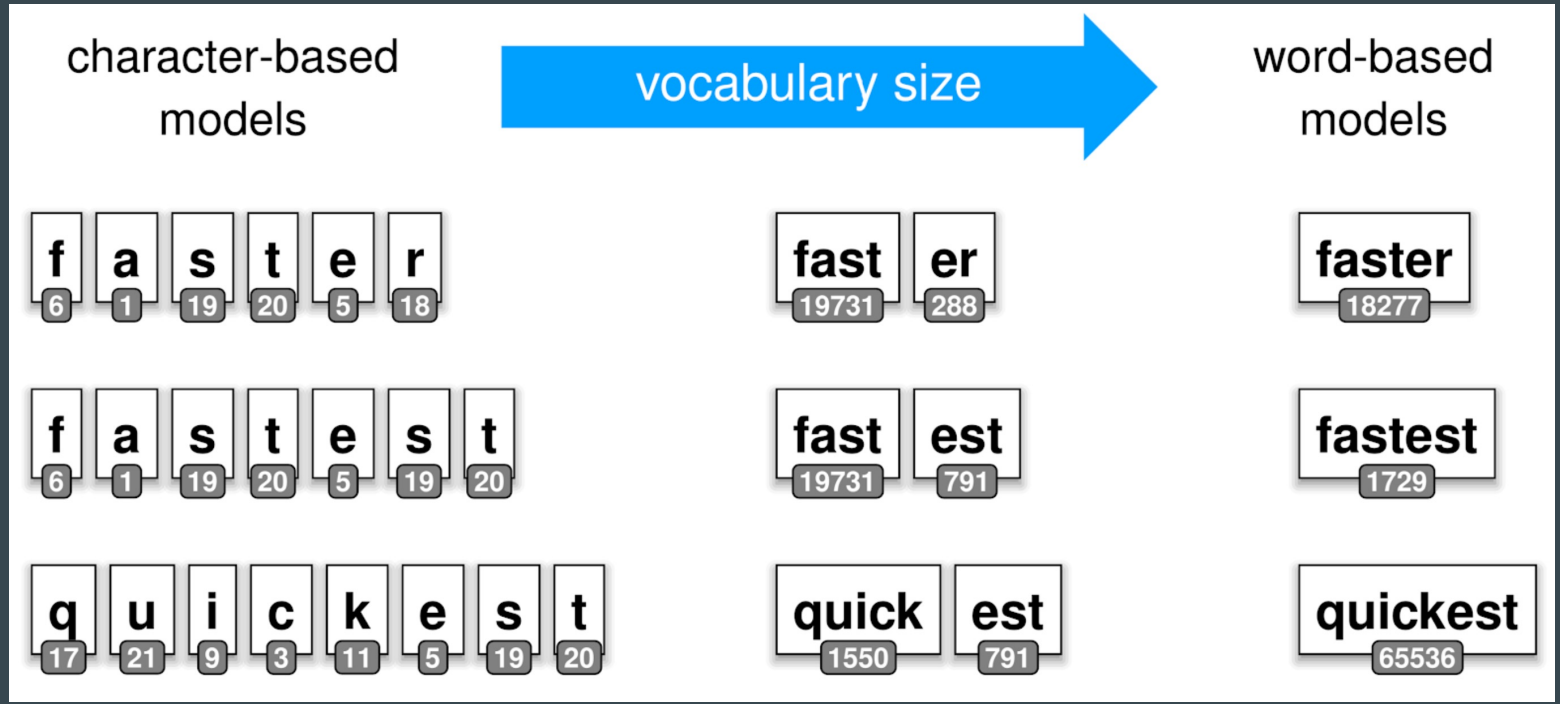
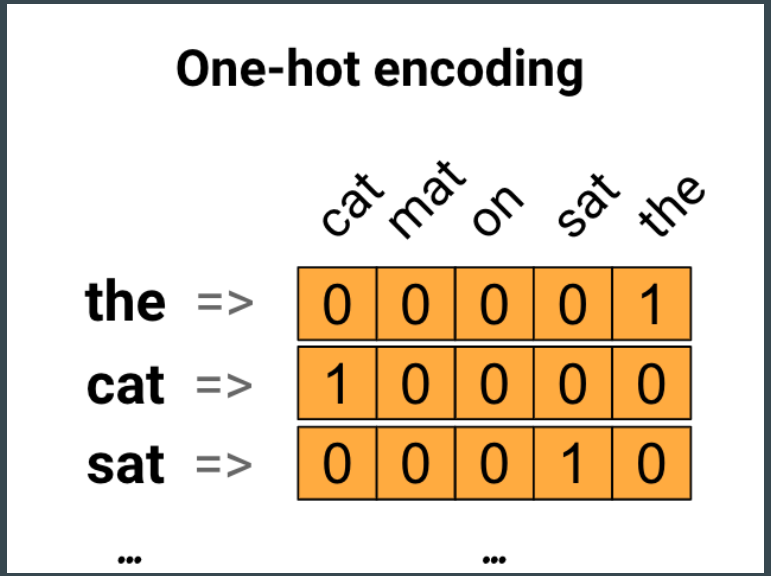
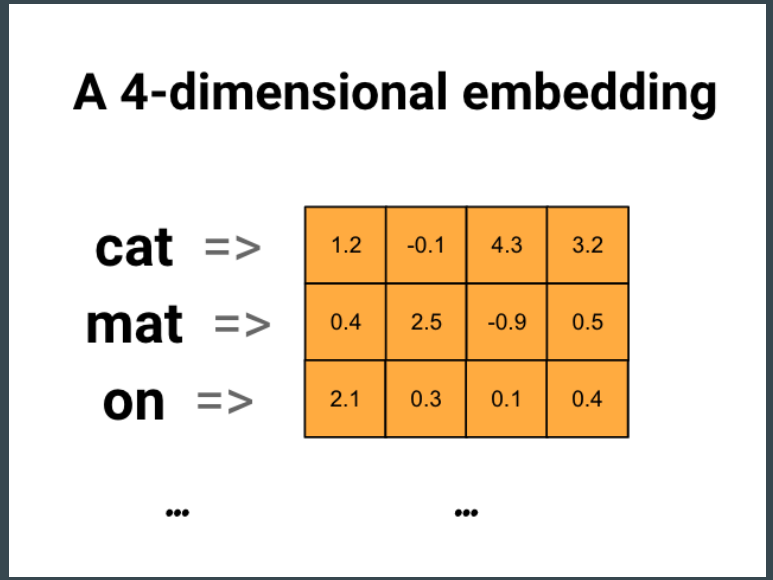



https://www.kaggle.com/code/funtowiczmo/hugging-face-tutorials-training-tokenizer/notebook

# Word Embedding



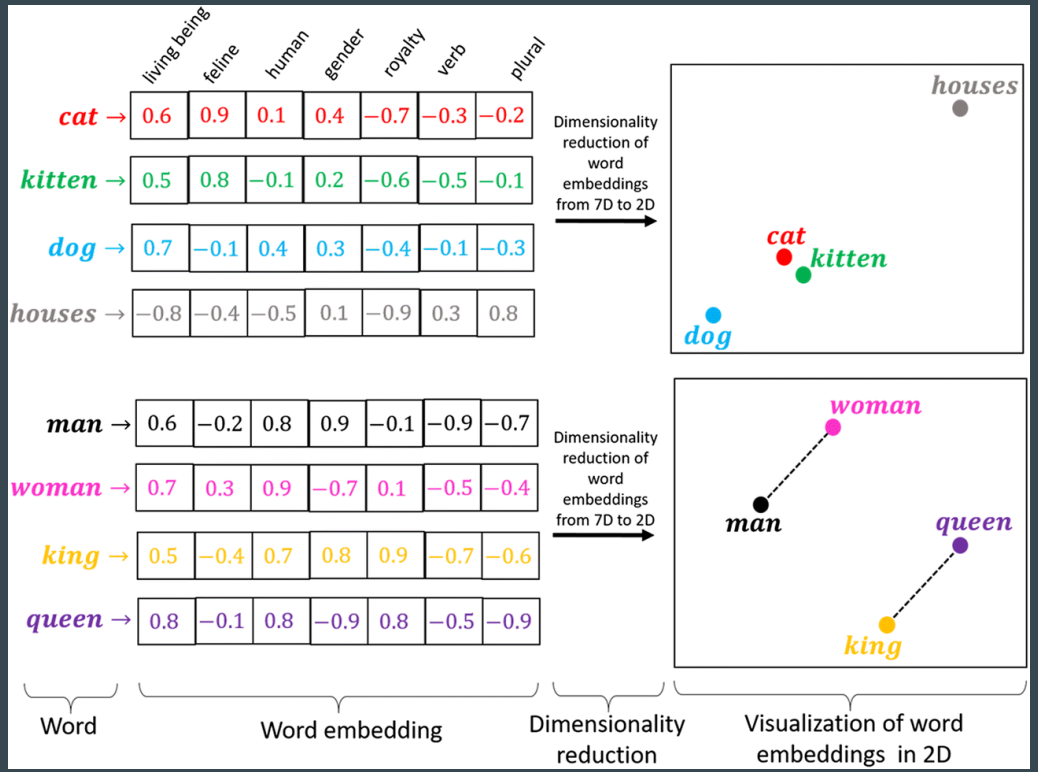

<Sparse Representation>




<Dense Representation>

https://www.tensorflow.org/text/guide/word_embeddings

# Word Embedding




https://medium.com/@hari4om/word-embedding-d816f643140

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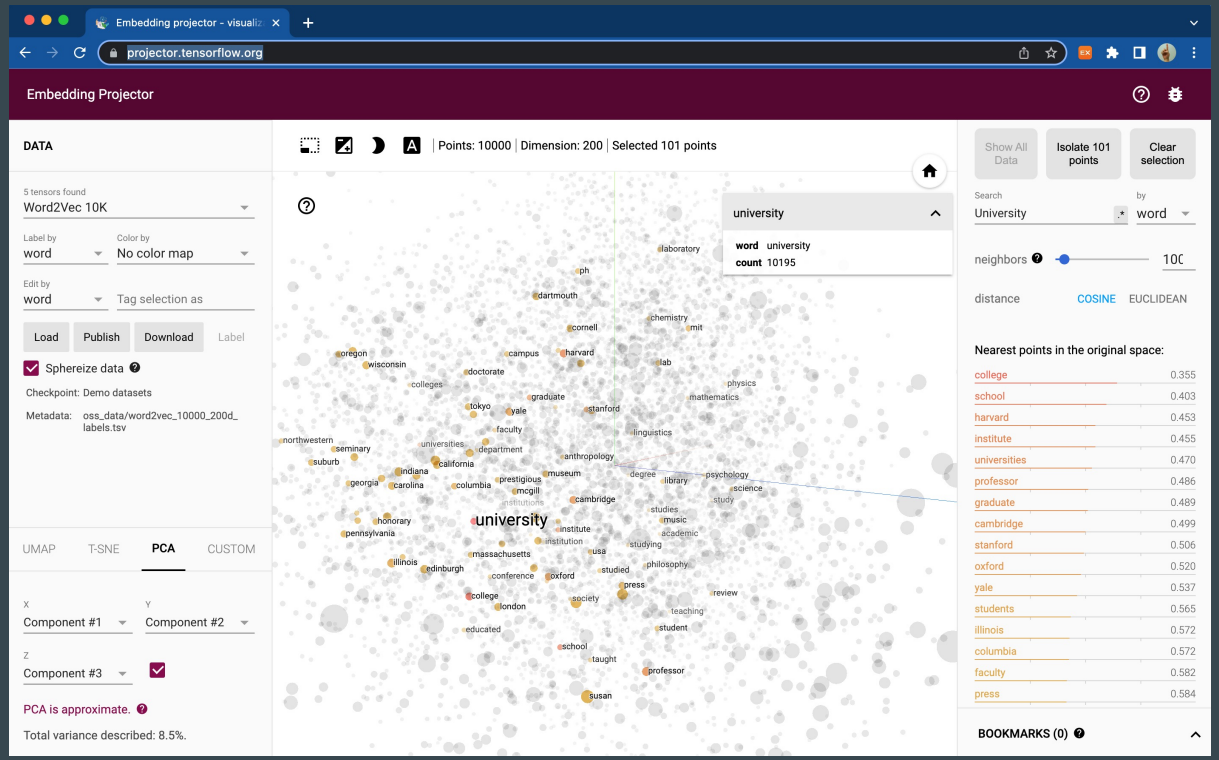
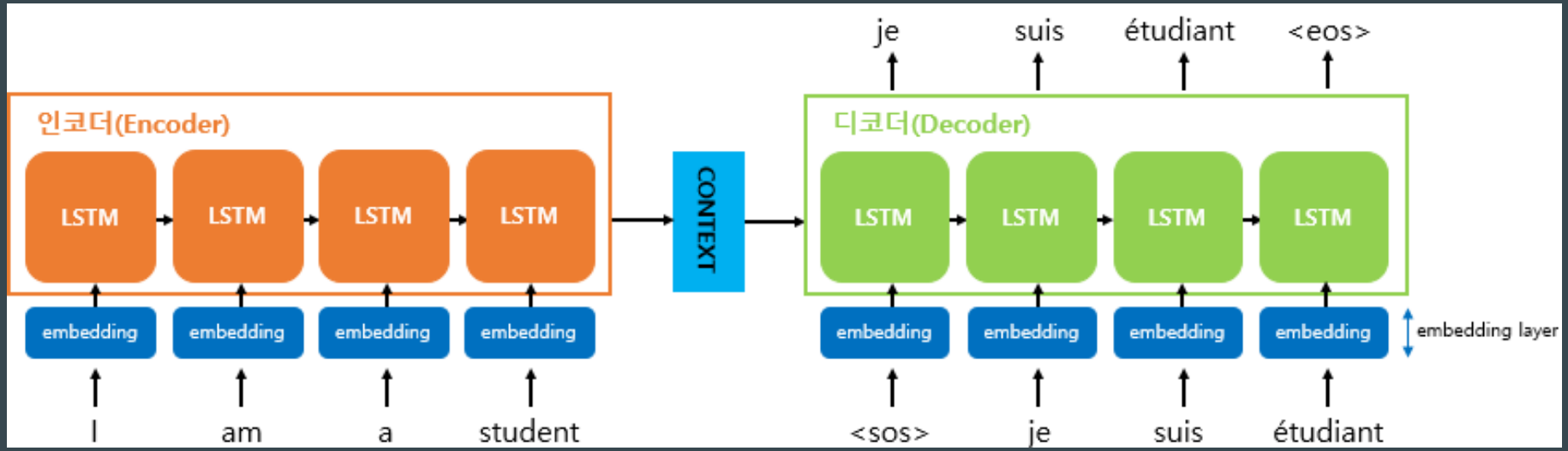



http://projector.tensorflow.org

# Sqquence-to-Sequence



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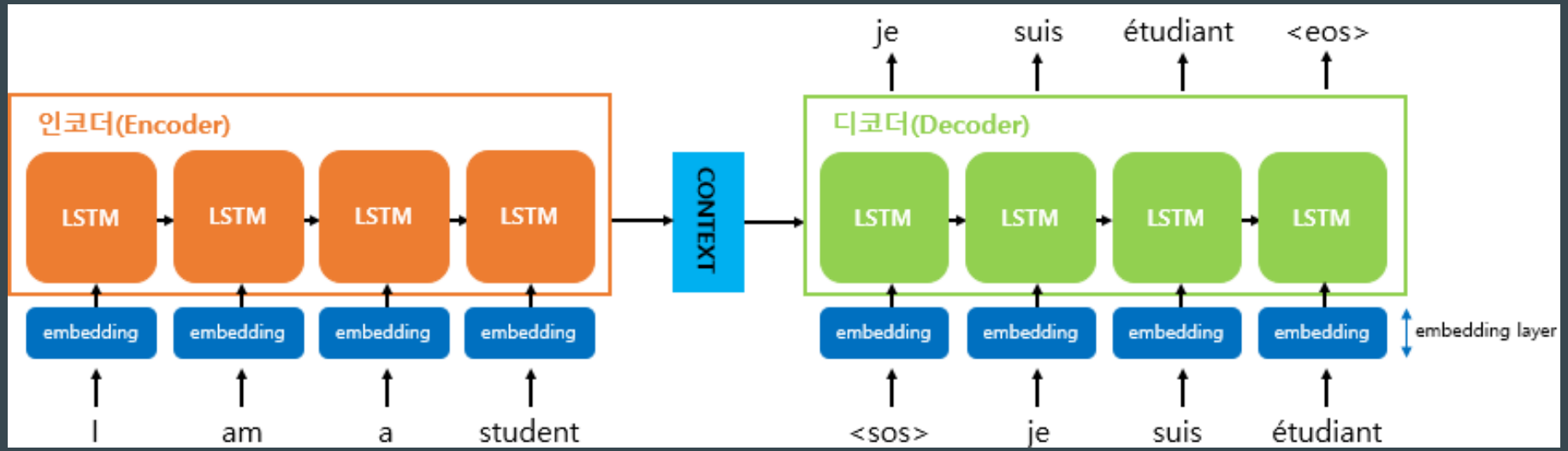


| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | | 0.157 | | -0.25 | | 0.478 | | -0.78 | | | |
| am | | 0.78 | | 0.29 | | -0.96 | | 0.52 | | | |
| a | | 0.75 | | -0.81 | | 0.96 | | 0.12 | | | |
| student | | 0.88 | | -0.17 | | 0.29 | | 0.48 | | | |

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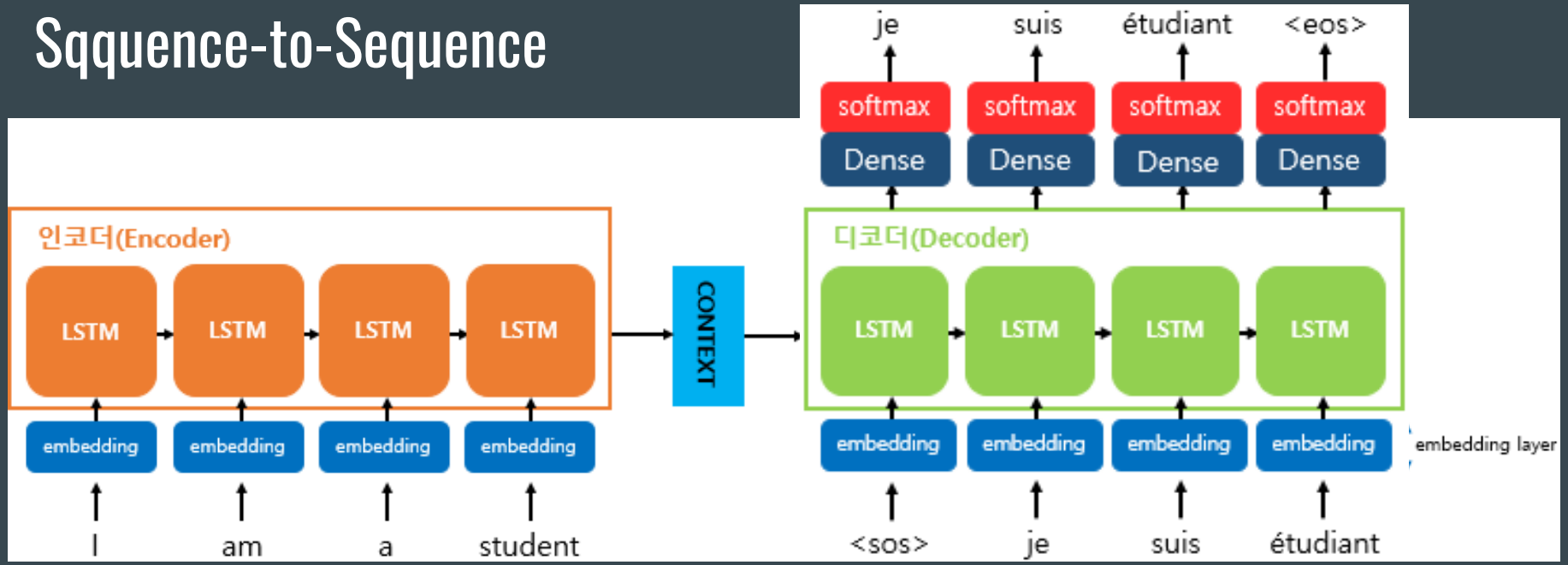


| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | | 0.157 | | am | | 0.78 | | a | | 0.75 | | student | | 0.88 |
| | | -0.25 | | | | 0.29 | | | | -0.81 | | | | -0.17 |
| | | 0.478 | | | | -0.96 | | | | 0.96 | | | | 0.29 |
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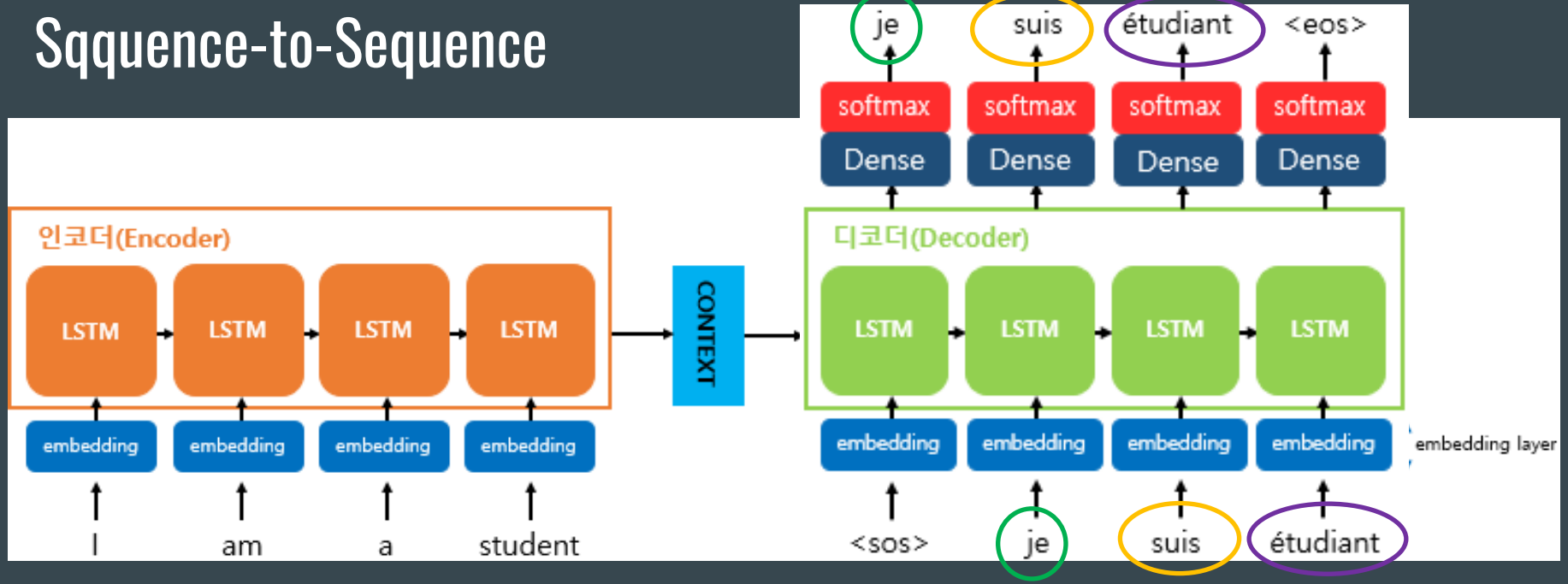


| I | | 0.157 |
|---|---|---|
| | | -0.25 |
| | | 0.478 |
| | | -0.78 |

| am | | 0.78 |
|---|---|---|
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| a | | 0.75 |
|---|---|---|
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|---|---|---|
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Everything can be found in
https://wikidocs.net/book/2155
https://github.com/ukairia777/tensorflow-nlp-tutorial