Language models

1 word2vec - static high dimensional word representation

Check the word embedding projector. Choose some words and check the most similar words (according to cos distance or euclidian distance)

2 Contextual high dimensional word representation

Read from NLP course from huggingface the section about basic notions about transformers for word meaning representation How do transformers work? Continue with Encoder, Decoder, Encoder-decoder based models.

You can use the Basic notebook to check the context-dependent representation for some examples.

3 Language models in HuggingFace Transformers

- Go to transformers, what can they do? and use the COlab button to test different pipelines. Pay attention to the differences between different tasks. All the tasks use language models but with different heads.
- Go to Using transformers and read all the sections.

  Use the notebook BERT for the first time in order to train a model to detect positive from negative movie reviews. There are 2 approaches: one without fine tuning (using the generated embeddings for CLS special token as features for ML algorithm), one with fine tuning. The best results are usually obtained with fine tuning, as the entire language model is changed according to the current task.