## **Theory**

What is NLP? [[Stanford cs224n](https://www.youtube.com/watch?v=OQQ-W_63UgQ&list=PL3FW7Lu3i5Jsnh1rnUwq_TcylNr7EkRe6)]

1. Intro [[HSE course](https://www.coursera.org/lecture/intro-to-deep-learning/motivation-for-recurrent-layers-qh7UX)]
2. Simple RNN and Backpropagation Through Time [[HSE course](https://www.coursera.org/lecture/intro-to-deep-learning/simple-rnn-and-backpropagation-zGHtr)]
3. Problems of RNN [HSE course: [vid\_1](https://www.coursera.org/lecture/intro-to-deep-learning/the-training-of-rnns-is-not-that-easy-gaBQJ), [vid\_2](https://www.coursera.org/lecture/intro-to-deep-learning/dealing-with-vanishing-and-exploding-gradients-Wes8G)]
4. LSTM and GRU [[HSE course,](https://www.coursera.org/lecture/intro-to-deep-learning/modern-rnns-lstm-and-gru-WpduX) [simple LSTM explanation](https://www.youtube.com/watch?v=WCUNPb-5EYI)]
5. RNN, Image Captioning LSTM [[Stanford CS231n 2017](https://youtu.be/6niqTuYFZLQ?t=770) or [Stanford CS231n 2016](https://www.youtube.com/watch?v=yCC09vCHzF8)]
6. Word2vec [[Stanford cs224n](https://www.youtube.com/watch?v=ERibwqs9p38), simple explanation: [post\_1](http://mccormickml.com/2016/04/19/word2vec-tutorial-the-skip-gram-model/), [post\_2](http://mccormickml.com/2017/01/11/word2vec-tutorial-part-2-negative-sampling/), [original paper](https://papers.nips.cc/paper/5021-distributed-representations-of-words-and-phrases-and-their-compositionality.pdf)]

* [An Intuitive Understanding of Word Embeddings: From Count Vectors to Word2Vec](https://mannuan.github.io/post/20191206194350/)
* [Art of Vector Representation of Words](https://towardsdatascience.com/art-of-vector-representation-of-words-5e85c59fee5)

## **Practical guides**

* [Text classification with keras](https://realpython.com/python-keras-text-classification/)
* [Spam classification using word2vec and keras](https://towardsdatascience.com/deep-learning-for-natural-language-processing-using-word2vec-keras-d9a240c7bb9d)
* [A Deep Dive into NLP with PyTorch](https://www.youtube.com/watch?v=4jROlXH9Nvc)

## **Additional**

* [Tensorflow playground](https://playground.tensorflow.org/)
* [NLP is Fun!](https://medium.com/@ageitgey/natural-language-processing-is-fun-9a0bff37854e)
* [Glove and fastText - Two Popular Word Vector Models in NLP](https://cai.tools.sap/blog/glove-and-fasttext-two-popular-word-vector-models-in-nlp/)
* Some courses
* [Deep learning for NLP Stanford Course](https://www.youtube.com/playlist?list=PL3FW7Lu3i5Jsnh1rnUwq_TcylNr7EkRe6)
* [Deep learning for Computer Vision Stanford Course](https://www.youtube.com/playlist?list=PL3FW7Lu3i5JvHM8ljYj-zLfQRF3EO8sYv)