



Introduction to NLP Course

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Course objectives

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- Provide to students a big picture of NLP field
- Students understand essential knowledge and techniques in building NLP models such as POS tagging, text classification, language models, etc.
- Students can implement some NLP models using Python and NLP/Machine Learning frameworks



Syllabus

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- Lecture slides
- Textbooks:
 - (**SLP3**) Jurafsky, D., & Martin, J. H. (2014). Speech and language processing (Vol. 3). London: Pearson. Online version: <https://web.stanford.edu/~jurafsky/slp3>
- Online blogs, tutorials, github, kaggle



Prerequisites

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- Programming proficiency
- Simple linear algebra (vectors, matrices)
- Basic probability theory



Topics covered in the course

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1. Linear Text Classification
2. Word Embeddings
3. N-gram Language Models
4. Sequence Labeling
5. NLP with Neural Networks
 - a. Feed-forward neural networks
 - b. RNNs and LSTMs
6. Transformers
 - a. Transformers and Pre-training Language Models
 - b. Masked Language Models (BERT)
7. ChatGPT and Applications
8. Pytorch and HuggingFace transformers library