**Natural Language Processing**

1. **Weekly To-Do List (Week 01: Jan 16 - 21)**

What is Natural Language Processing? <https://www.youtube.com/watch?v=fLvJ8VdHLA0&t=457s>

## Weekly To-Do List (Week 02: Jan 22 - 28)

## Lecture - 1

## Tokenization: <https://www.youtube.com/watch?v=niKMwO8NIiM>

## Weekly To-Do List (Week 03: Jan 29 – Feb 04)

## Lecture - 2

## Regex: <https://www.youtube.com/watch?v=9RksQ5YT7FM>

## Regex 2: <https://www.youtube.com/watch?v=jCE9qHkSyoE>

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## Weekly To-Do List (Week 04: Feb 05 – Feb 011)

## Lecture - 3

## Word Normalization: <https://www.youtube.com/watch?v=bFfWbQoVmIA&list=PLaZQkZp6WhWyvdiP49JG-rjyTPck_hvEu&index=7>

## Stemming and Lemmatization: <https://www.youtube.com/watch?v=HHAilAC3cXw>

## Weekly To-Do List (Week 05: Feb 12 – Feb 18)

## Complete Assignment-1

## Weekly To-Do List (Week 06: Feb 19 – Feb 25)

## Lecture - 4

## Minimum Edit Distance: <https://www.youtube.com/watch?v=Dd_NgYVOdLk>

## Weekly To-Do List (Week 07: Feb 26 – Mar 03)

## Lecture - 5

## Language Model, Exercised using Bi-gram, Tri-gram and 4-gram: <https://www.youtube.com/watch?v=zz1CFBS4NaY&list=PLS5J_kYlArq70lFrO7hTSpGl97AosjFCl&index=2>

## Laplace smoothing, Zero probability, Perplexity: <https://www.youtube.com/watch?v=UUdGPzmRTyw&list=PLS5J_kYlArq70lFrO7hTSpGl97AosjFCl&index=2>

## Language Modeling Applications and Evaluation Criteria: <https://www.youtube.com/watch?v=Zr8WIJ4nH7E&list=PLS5J_kYlArq70lFrO7hTSpGl97AosjFCl&index=3>

## Weekly To-Do List (Week 08: Mar 04- Mar 10)

## Lecture - 6

## Text Classification: Naive Bayes Classifier: <https://www.youtube.com/watch?v=temQ8mHpe3k>

## Naive Bayes Example from Textbook: <https://www.youtube.com/watch?v=mqYa0LaA9WI>

## Binary Naive Bayes, A worked sentiment example with add 1 smoothing: <https://www.youtube.com/watch?v=tjDceq0qH10&t=93s>

## Classification Metrics: Precision, Recall, and F1: <https://www.youtube.com/watch?v=8d3JbbSj-I8>

## Understanding rule-based classification for Decision Tree: <https://www.youtube.com/watch?v=dMGvPY9iJDc>

## Weekly To-Do List (Week 10: Mar 18- Mar 24)

## Quiz 2

## Ungraded Activity

## Weekly To-Do List (Week 11: Mar 25- Mar 31)

## Lecture - 7

## Spelling Correction: <https://www.youtube.com/watch?v=Z-fpa392xdE>

## Noisy Channel – Baye’s Rule: <https://www.youtube.com/watch?v=1Kcnx9EaPf0>

## Non-word spelling error: <https://www.youtube.com/watch?v=DvGz-rDIsD4>

## Real word spelling errors: <https://www.youtube.com/watch?v=NmMHcffgLTg>

## Weekly To-Do List (Week 12: Apr 01- Apr 07)

## Lecture - 8

## Sentiment Analysis: <https://www.youtube.com/watch?v=Ao4-ZIPOGJI>

## How sentiment analysis works: <https://www.youtube.com/watch?v=nBZUcBrq6oA>

## Lexicon Based methods: <https://www.youtube.com/watch?v=dL7swWymrGk>

## Calculation of Polarity and Subjectivity: <https://www.youtube.com/watch?v=o3BXgArTftM&t=276s>

## Sentiment analysis using Text Blob: <https://www.youtube.com/watch?v=wfFTjQckbdA>

## Sentiment Analysis Project with NLTK and Transformers: <https://www.youtube.com/watch?v=QpzMWQvxXWk>

## Weekly To-Do List (Week 13: Apr 08- Apr 15)

## Lecture - 9

## Text Summarization: <https://www.youtube.com/watch?v=sziIObdhdXI>

## Rouge Metric: <https://www.youtube.com/watch?v=TMshhnrEXlg>

## Complete Assignment – 2

## Weekly To-Do List (Week 14: Apr 15- Apr 21)

## Lecture - 10

## Question Answering: <https://www.youtube.com/watch?v=_0LFrYzAY_s>

## Python Code: <https://www.youtube.com/watch?v=6ppxd9lp-X0>

## Weekly To-Do List (Week 15: Apr 22- Apr 28)

## Intro. to NER: <https://www.youtube.com/watch?v=7CRyqwCZFY0&t=20s>

## Intro. to Part of Speech tagging: <https://www.youtube.com/watch?v=WQYt3DRLpuQ&t=46s>