

Roadmap To Master NLP In 2023



- Are you interested in learning Natural Language Processing (NLP) but don't know where to start?
- NLP is a branch of Artificial Intelligence (AI) that focuses on enabling machines to understand, interpret, and generate human language. It has become a vital technology in many industries, including healthcare, finance, and marketing.

Here's a roadmap to help you get started with NLP:

- **Libraries**

spaCy,
Core NLP,
Text Blob,
PyNLPI,
Gensim,
Pattern

Step 1

Text Preprocessing Level-1

- In NLP, we have the text data, which our Machine Learning algorithms cannot directly use, so we have first to preprocess it and then feed the preprocessed data to our Machine Learning algorithms. So, In this step, we will try to learn the same basic processing steps which we have to perform in almost every NLP problem.

Tokenization,
Lemmatization,
Stemming,
Parts of Speech (POS),
Stopwords removal,
Punctuation removal, etc.

Step 2

Advanced level Text Cleaning

- These are some advanced-level techniques that help our text data give our model better performance. Let's take an advanced understanding of some of these techniques straightforwardly.

Normalization,
Correction of Typos, etc.



Step 3

Text preprocessing Level-2

- All these are the primary methods to convert our Text data into numerical data (Vectors) to apply a Machine Learning algorithm to it.

Bag of words (BOW),
Term frequency Inverse Document Frequency (TFIDF),
Unigram, Bigram, and Ngrams..



Step 4

Text preprocessing Level-3

- All these are advanced techniques to convert words into vectors.

Word2vec,
Average word2vec
GloVe
FastText

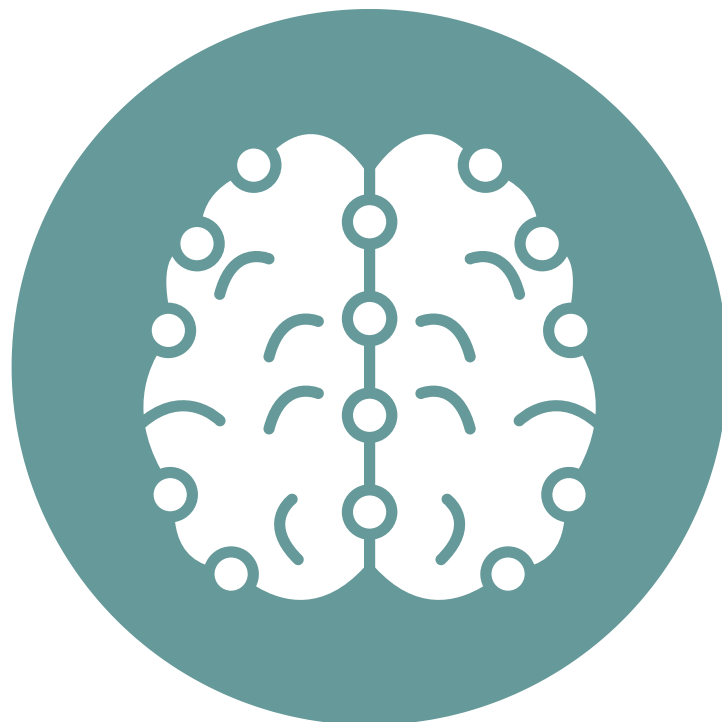


Step 5

Deep Learning Models

- RNN is mainly used when we have the data sequence in hand, and we have to analyze that data. We will understand LSTM and GRU, conceptually succeeding topics after RNN.

Recurrent Neural Networks (RNN),
Long Short Term Memory (LSTM),
Gated Recurrent Unit (GRU).



Step 6

Text preprocessing Level-4

Word Embedding

Word 2 Vec

Step 7

Bidirectional LSTM RNN,

Encoders and Decoders,

Self-attention models

Step 8

- The Transformer in NLP is an architecture that seeks to handle sequence-to-sequence tasks while handling long-range relationships with ease. It leverages self-attention models

Transformers

Step 9

- It is a variation of the transformer, and it converts a sentence into a vector. It is a neural network-based technique used for natural language processing pre-training.

Learn NLP SOTA Model

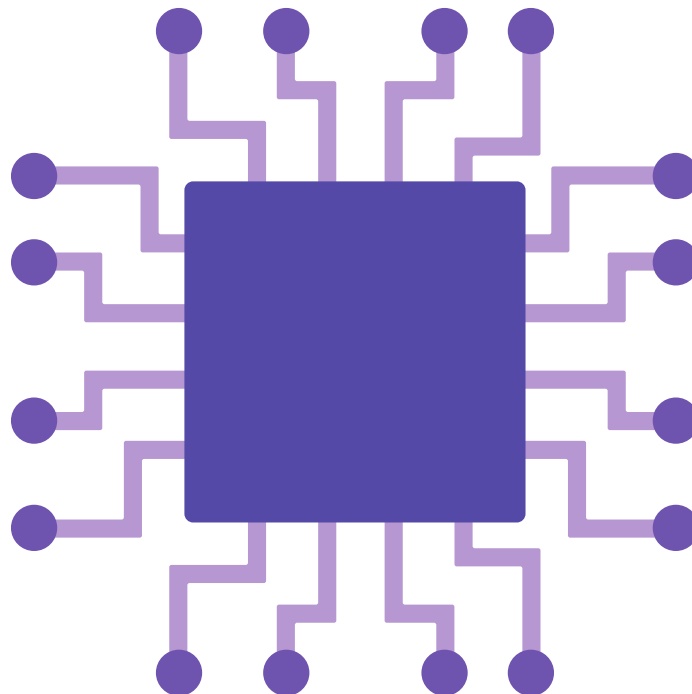
BERT

GPT

RoBerta

Elmo

Distilbert



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