



FOR BEGINNERS

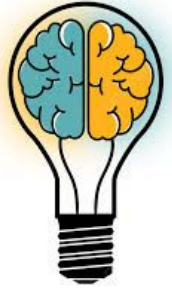
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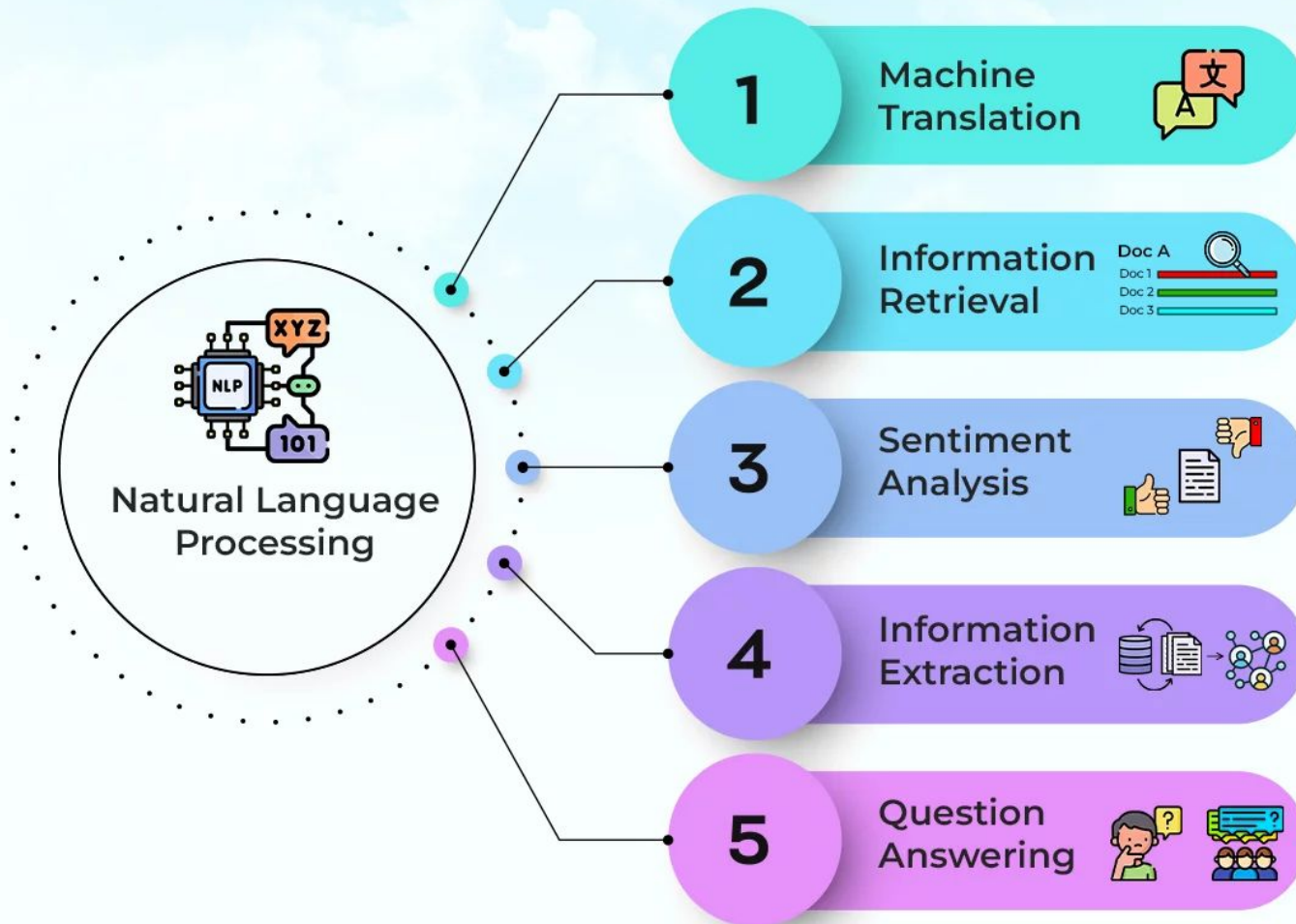
INTRODUCTION TO

# Natural Language Processing

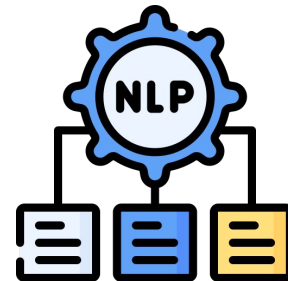


Natural language processing (NLP) is a field of artificial intelligence (AI) that focuses on how computers interact with humans in natural language





# You can Expect :-



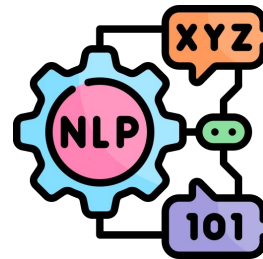
## Tokenization :-

- Dividing text into smaller units (tokens) such as words or sentences.
- Enables text processing at a granular level.

## Stemming:-

- Reducing words to their root or base form.
- Helps in Dimensionality Reduction and Normalization

# You can Expect :-



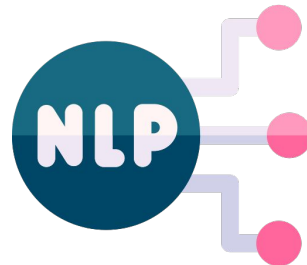
## Lemmatization:-

- Similar to stemming but ensures resulting words are actual lemmas or dictionary words.
- Preserves meaning better than stemming.

## Part-of-Speech Tagging (POS):-

- Assigning grammatical categories (e.g., noun, verb) to words in a sentence.
- Facilitates syntactic analysis and understanding sentence structure.

# You can Expect :-



## **Named Entity Recognition (NER):-**

- Identifying and classifying named entities (e.g., names, organizations) in text.
- Useful for extracting structured information from unstructured text.

## **Sentiment Analysis:-**

- Determining the sentiment or emotion expressed in text.
- Can be positive, negative, or neutral, aiding in understanding user opinions.

# You can Expect :-

## Word Embeddings:-

- Mapping words or phrases to vectors of real numbers.
- Captures semantic relationships between words, used in various NLP tasks.

## Topic Modeling:-

- Discovering topics present in a collection of documents.
- Helps in understanding the underlying themes or subjects in text corpora.





# You can Expect :-



## **Text Classification:-**

- Assigning predefined categories or labels to text documents.
- Enables automated sorting or categorization of textual data.

## **Machine Translation:-**

- Automatically translating text from one language to another.
- Utilizes various techniques including statistical methods and neural networks.



# You can Expect :-

## **Text Summarization:-**

- Condensing a longer piece of text into a shorter version while retaining key information.
- Useful for extracting essential content from large documents or articles.

## **Named Entity Disambiguation:-**

- Resolving ambiguity in named entities by identifying their unique referents.
- Essential for accurate understanding in information retrieval systems.

