NLP and writing Systems

The kind of writing system used for a language is one of the deciding factors in determining the best approach for text pre-processing. Writing systems can be

1. Logographic: a large number of individual symbols represent words. Example Japanese, Mandarin
2. Syllabic: Individual symbols represent syllables
3. Alphabetic: Individual symbols represent sound

Majority of the writing systems use the Syllabic or Alphabetic system. Even English, with its relatively simple writing system based on the Roman alphabet, utilizes logographic symbols which include Arabic numerals, Currency symbols (S, £), and other special symbols.

This pose following challenges

- Extracting meaning(semantics) from a text is a challenge
- NLP is dependent on the quality of the corpus. If the domain is vast, it's difficult to understand context.
- There is a dependence on the character set and language

How to implement NLP

Below, given are popular methods used for Natural Learning Process:

Machine learning: The learning nlp procedures used during machine learning. It automatically focuses on the most common cases. So when we write rules by hand, it is often not correct at all concerned about human errors.

Statistical inference: NLP can make use of statistical inference algorithms. It helps you to produce models that are robust. e.g., containing words or structures which are known to everyone.

NLP Examples

Today, Natual process learning technology is widely used technology.

Here, are common Application' of NLP:

Information retrieval & Web Search

Google, Yahoo, Bing, and other search engines base their machine translation technology on NLP deep learning models. It allows algorithms to read text on a webpage, interpret its meaning and translate it to another language.

Grammar Correction:

NLP technique is widely used by word processor software like MS-word for spelling correction & grammar check.

Question Answering

Type in keywords to ask Questions in Natural Language.

Text Summarization

The process of summarising important information from a source to produce a shortened version

Machine Translation

Use of computer applications to translate text or speech from one natural language to another.

Sentiment analysis

NLP helps companies to analyze a large number of reviews on a product. It also allows their customers to give a review of the particular product.

Advantages of NLP

- Users can ask questions about any subject and get a direct response within seconds.
- NLP system provides answers to the questions in natural language
- NLP system offers exact answers to the questions, no unnecessary or unwanted information
- The accuracy of the answers increases with the amount of relevant information provided in the question.
- NLP process helps computers communicate with humans in their language and scales other language-related tasks
- Allows you to perform more language-based data compares to a human being without fatigue and in an unbiased and consistent way.
- Structuring a highly unstructured data source

Disadvantages of NLP

- Complex Query Language- the system may not be able to provide the correct answer it the question that is poorly worded or ambiguous.
- The system is built for a single and specific task only; it is unable to adapt to new domains and problems because of limited functions.
- NLP system doesn't have a user interface which lacks features that allow users to further interact with the system