

with the use of a vocabulary. For example, in case of token *drived*, stemming results in “driv”, whereas lemmatization attempts to return the correct basic form either *drive* or *drived* depending on the context it is used.

d) Syntactic

After PoS tagging done at lexical level, words are grouped to phrases and phrases are grouped to form clauses and then phrases are combined to sentences at syntactic level. It emphasizes the correct formation of a sentence by analyzing the grammatical structure of the sentence. The output of this level is a sentence that reveals structural dependency between words. It is also known as *parsing* which uncovers the phrases that convey more meaning in comparison to the meaning of individual words. Syntactic level examines word order, stop-words, morphology and PoS of words which lexical level does not consider. Changing word order will change the dependency among words and may also affect the comprehension of sentences. For example, in the sentences “ram beats shyam in a competition” and “shyam beats ram in a competition”, only syntax is different but convey different meanings [139]. It retains the stopwords as removal of them changes the meaning of the sentence. It doesn’t support lemmatization and stemming because converting words to its basic form changes the grammar of the sentence. It focuses on identification on correct PoS of sentences. For example: in the sentence “frowns on his face”, “frowns” is a noun whereas it is a verb in the sentence “he frowns”.

e) Semantic

On a semantic level, the most important task is to determine the proper meaning of a sentence. To understand the meaning of a sentence, human beings rely on the knowledge about language and the concepts present in that sentence, but machines can’t count on these techniques. Semantic processing determines the possible meanings of a sentence by processing its logical structure to recognize the most relevant words to understand the interactions among words or different concepts in the sentence. For example, it understands that a sentence is about “movies” even if it doesn’t comprise actual words, but it contains related concepts such as “actor”, “actress”, “dialogue” or “script”. This level of processing also incorporates the semantic disambiguation of words with multiple senses (Elizabeth D. Liddy, 2001) [68]. For example, the word “bark” as a noun can mean either as a sound that a dog makes or outer covering of the tree. The semantic level examines words for their dictionary interpretation or interpretation is derived from the context of the sentence. For example: the sentence “Krishna is good and noble.” This sentence is either talking about Lord Krishna or about a person “Krishna”. That is why, to get the proper meaning of the sentence, the appropriate interpretation is considered by looking at the rest of the sentence [44].

f) Discourse

While syntax and semantics level deal with sentence-length units, the discourse level of NLP deals with more than one sentence. It deals with the analysis of logical structure by making connections among words and sentences that ensure its coherence. It focuses on the properties of the text that convey meaning by interpreting the relations between sentences and uncovering linguistic structures from texts at several levels (Liddy,2001) [68]. The two of the most common levels are: *Anaphora Resolution* and *Coreference Resolution*. Anaphora resolution