**Midterm Assessment: PART III Yog Chaudhary**

**ADTA 5750.501: Applied Natural Language Processing**

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**4.1 Question 1: Natural Language: A Definition (5 Points)**

Natural language process language, it’s developed and used by human for everyday communication, which included language like English, Nepali, Chinese, and other language’s. which acquired natural without formal, unlike programing as defined as rules-based system used programming.

**Understanding** of natural language is based on natural languages have several key properties. It is highly ambiguous, meaning that the same word and multiple interpretations depending on context, tone, and intent. They also have a hierarchical structure that organizes words into sentences based on syntactic rules. Additionally, natural languages are generative, allowing speakers to form an infinite number of sentences using a finite set of rules and vocabulary.

NLP to enable computers to understand and generate human language. The variability, and complexity of natural languages make it challenging for machines to process and interpret them accurately. NLP models need to handle various linguistic and multiple meanings for a word, syntax variations, making it a complex task for computer systems.

**4.2 Question 2: Natural Language Processing (NLP): A Definition (10 Points)**

NLP is a field of artificial intelligence that focuses on the interaction between computers and human natural languages. The goal is to enable machines to read, understand, and respond to human language in a way that is both meaningful and useful. It computational techniques to the analysis and synthesis of natural language.

**Understating** NLP bridges the gap between human communication and computer understanding, its ability to process and analyze vast amounts of unstructured data, such as texts, conversations, and even voice data, to extract meaningful information.

**Another thing of NLP** is a set of techniques and tools based on artificial intelligence (AI) technologies, especially deep learning, to teach computers to understand and use any forms of daily used human languages in various applications. its use of machine learning algorithms, such as deep learning models, to improve language comprehension and generation. Those models learn from large datasets to understand patterns in language, making them capable of tasks like translation, summarization, and sentiment analysis. However, challenges due to the complexity of human language, including its cultural, grammatical, and contextual intricacies.

**4.3 Question 3: John Austin’s Speech Act Theory (15 Points)**

John Austin’s Speech Act Theory, later extended by John Searle, highlights the performative nature of language, suggesting that’s conversion and communicating information. They Several involves John Austin’s Speech Act Theory.

* Locutionary Act.
* Illocutionary Act.
* Perlocutionary Act.

Austin proposed goal was to demonstrate that language and descriptive but also performative, meaning it can bring about real-world actions. Searle extended Austin’s ideas by emphasizing the different types of speech acts, such as declarations, directives, and commissive, each having specific functions in communication.

Austin and Searle’s Speech Act Theory has practical applications in many fields, including NLP, which are understanding and involving meaning, intent, and effect the intention behind language is crucial for developing more differentials, and machine AI systems with capable of interacting naturally with humans.

Austin presented a new picture of analyzing meaning; meaning is described in a relation among linguistic conventions correlated with words/sentences, the situation where the speaker actually says some-thing to the hearer, and associated intentions of the speaker. The idea that meaning exists among these relations is depicted successfully by the concept of acts in uttering a sentence, that is, in utilizing linguistic conventions, the speaker with an associated intention performs a linguistic act to the hearer.

**Austin’s analysis o**f meaning is unique in the sense that meaning is not ex-pained through some forms of reduction. In reductive theories of meaning, complexities of meaning expressed by a sentence are reduced by a single criterion to something else, and this is claimed to be the process of explaining the meaning of the sentence. We can find this reductive explanation of meaning typically in John Searle: using a logical-mathematical model, John Searle reduces the meaning of a sentence to a fact to which the sentence corresponds. The strictest reductionists are logical positivists. According to Warnock (1969), by verification principles logical positivists reduced complexities of sentence meaning to something verifiable, and condemned an unverifiable sentence as, strictly speaking, nonsense. Austin’s also took a reductive approach and defined the mean-in of a sentence in terms of a state of affairs to which the sentence corresponds. Modern truth-conditional semanticists adopt the John Searle idea of explaining.

**Conclusion**

We have expanded on Austin’s speech act theory so that speech situation. It can be better understood. Unlike other speech act theorists who essentially describe how illocutionary acts differ from one any other in terms of intentionality, we have proposed an alternative scheme: to de-scribe illocutionary acts in terms of different aspects of the speech situation. After initially discussing the speech situation and its theoretical import, and subsequently using Austin’s felicity conditions as a starting point, we illustrated three aspects of the speech situation, conventionality, actuality, and intentional. And next we explained the performance of an illocutionary act as follows: by uttering a sentence, the speaker indicates, as the present speech situation, a certain speech situation, which is substantiated by an associated intention.

The purpose of the present paper is merely to provide a theoretical framework, through an analysis of illocutionary acts, which gives a clearer and more concise description of the speech situation on which communication is based. To actually a framework, more thorough analyses of the speech situation and both types of speech act are needed.

**References**

Searle, John R., Expression and Meaning: Studies in the Theory of Speech Act, Cambridge Univer-sity Press, Cambridge 1979.

Searle, John R., Intentionality: An essay in the Philosophy of Mind, Cambridge University Press, Cambridge 1983.