

Compulsory Task 2

Google's BERT (Bidirectional Encoder Representations from Transformers) model is amongst the most amazing advancements in natural language processing (NLP) technology. In 2018, Google unveiled BERT, which soon became well-known for its superior capacity to comprehend spoken English.

BERT is a deep learning system that examines the context and meaning of words in a phrase using a transformer-based architecture. It can comprehend the context and sentiment of a piece of text as well as assess the meaning of words in connection to other words in a phrase. This enables it to carry out difficult tasks like text summary, language translation, and question answering.

BERT uses a bidirectional method to language modelling, which is its main novel idea. Traditional NLP models are built on a unidirectional approach, which means they only analyse text in one direction. Examples of these models include LSTM (Long Short-Term Memory) and GPT (Generative Pre-trained Transformer). BERT, on the other hand, processes text in both directions, enabling it to consider the context of each word in a phrase and provide more precise interpretations of the text.

BERT is used in a variety of applications, such as speech recognition, chatbots, and language translation, due to its capacity to comprehend word context and meaning. For instance, Google Assistant makes use of BERT to comprehend and interpret user queries in order to deliver more precise responses.

IBM Watson, a cloud-based platform that gives companies extensive AI and machine learning capabilities, is another example of a cutting-edge application of NLP technology. With the aid of Watson, businesses can process massive amounts of unstructured data, including as text, audio, and video, and draw conclusions from it.

Watson's natural language processing capabilities, which enable it to analyse enormous amounts of unstructured text input and draw conclusions from that data, are one of its primary strengths. For instance, organisations can use Watson to evaluate social media posts, customer reviews, and other unstructured data to better understand customer mood and preferences.

Overall, NLP technology is evolving quickly and has the potential to completely change how humans communicate with computers and other devices. There are numerous cutting-edge NLP technologies being created right now, and BERT and Watson are only two examples. It will be intriguing to watch what new innovations may appear in the future.