



Natural Language Processing (NLP):

Natural Language Processing is a branch of artificial intelligence that focuses on the interaction between humans and computers using natural language. In healthcare, NLP involves gathering and analyzing unstructured data from human language to extract patterns and meaning, enabling more effective use of healthcare data.

Clinical Documentation:

Clinical documentation in healthcare refers to the process of recording patient information, diagnoses, treatments, and other essential details in electronic health records (EHRs). NLP aids in clinical documentation by offering speech-to-text dictation and data entry solutions, reducing the burden on clinicians.



Speech Recognition:

Speech recognition, as applied in healthcare, involves the conversion of spoken words into text. NLP is used to transcribe clinical notes, enabling efficient data entry into EHR systems. Front-end speech recognition allows clinicians to dictate notes in real-time, while back-end technology corrects errors before finalizing the transcription.



Computer-Assisted Coding (CAC):

Computer-Assisted Coding is a technology that captures data related to medical procedures and treatments to assign appropriate codes for billing and claims purposes. NLP is utilized in CAC to enhance the speed of coding, although its adoption rate is currently around 30%.



Data Mining Research:

Data mining research in healthcare involves the integration of data mining techniques to extract valuable medical knowledge and reduce subjectivity in decision-making. NLP contributes to this process by analyzing large datasets and facilitating knowledge discovery, supporting healthcare organizations in creating effective business strategies.



Automated Registry Reporting:

Automated registry reporting in healthcare refers to the extraction of values needed for specific use cases, such as regulatory reporting. NLP is employed to identify and save relevant values from unstructured data, enabling health systems to streamline automated registry reporting.



Clinical Decision Support:

Clinical Decision Support involves utilizing NLP to strengthen decision-making in healthcare. It enhances clinical decisions by providing acute support, and applications include areas like computerized infection detection. NLP-powered Clinical Decision Support is offered by vendors such as M*Modal and IBM Watson Health.



Clinical Trial Matching:

Clinical Trial Matching involves using NLP and machine learning in healthcare to identify suitable patients for clinical trials. Companies like IBM Watson Health and Inspirata utilize NLP engines for trial matching, automating the process and making it more seamless.



Prior Authorization:

Prior Authorization in healthcare involves obtaining approval from payers before certain medical services are provided. NLP is utilized by companies like IBM Watson and Anthem to deduce prior authorization promptly, potentially reducing practice overhead and improving care delivery.



AI Chatbots and Virtual Scribe:

AI Chatbots and Virtual Scribes are applications of NLP in healthcare that involve the use of virtual assistants for tasks like capturing symptoms, triaging patients, and modifying clinical documentation. Companies like BRIGHT.MD and Woebot are developing chatbots with conversational NLP capabilities.

