**Definition**

Clinical natural language technology (NLT) is the application of natural language processing (NLP), optical character recognition (OCR), computer vision, as well as language and multimodal models in the health care domain. This report explores the historical context, current trends, and potential future directions for NLT in health care as well as specific future applications of these various technologies.

**Past Approaches**

AI has been used for diagnostic imaging, genetic testing, and electrodiagnosis. Techniques like support vector machines (SVM) and neural networks have been popular.

**Present Approaches**

AI is currently applied in early detection and diagnosis, treatment and outcome prediction. Deep learning and natural language processing (NLP) are widely used.

**Future Approaches**

AI aims to assist in clinical decision making and real-time health risk alerts. Systems like IBM Watson are pioneering in this field.

**Opportunities and Threats**

* **Opportunities**:
  + Improved patient outcomes because of personalized medicine and less human error
  + Personalized AI “doctor” that uses neural networks to study your personal health trends
  + With doctor availability always having been stressful there is potential for a doctor of your own
* **Threats**:
  + Privacy concerns (patient data protection).
  + Large Language Models have the risk of being “jail-broken” or simply saying things they were prompted not to
  + Bias in NLP models. There is a particular risk of bias when it comes to Large Language Models

**Strategic Options for Cotiviti**

1. **Invest in Research**: Cotiviti can fund research on multimodal NLT, focusing on integrating NLP, OCR, and computer vision for health care applications. Cotiviti can invest in training their very own specialized LLM.
2. **Ask the people**: People will pay for the best care they can afford, so what does better care look like to them? Success will be found not at founding the newest technology but the newest technology that people want.

**Conclusion**

Clinical natural language technology (NLT) integrates various AI technologies such as NLP and computer vision to transform patient care and decision-making in the present as well as in the future of healthcare.

**Bibliography**:

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