

Natural Language Processing for Healthcare: Transforming Patient Data Analysis

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Abstract. This study investigates the role of natural language processing (NLP) in transforming the analysis of patient data within the healthcare sector. By leveraging machine learning algorithms, NLP can enhance the extraction and interpretation of unstructured data from electronic health records, improving patient outcomes. The article discusses the integration of NLP tools in healthcare systems and highlights the potential benefits and challenges associated with their implementation.

Keywords: Natural Language Processing, Healthcare, Machine Learning, Patient Data, Electronic Health Records

Introduction

The healthcare sector is increasingly recognizing the potential of artificial intelligence to transform patient care and data management. One of the most promising areas is natural language processing (NLP), which enables the extraction and interpretation of unstructured data from electronic health records. This article explores how NLP, combined with machine learning algorithms, can significantly enhance patient data analysis, leading to improved patient outcomes. We discuss the integration of NLP tools into healthcare systems and examine the potential benefits, such as increased accuracy and efficiency. However, challenges such as data privacy and algorithmic bias must be addressed to fully realize the benefits of NLP in healthcare.

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