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*University of Westminster, Coat of Arms*

# MediTalk

## **Patient-Doctor conversation Summarization With Clinical Prediction using Deep Learning**

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## **ABSTRACT**

The use of deep learning and transformer models in the field of medical AI is a growing area of research that has the potential to revolutionize the way practitioners approach patient care. Doctor-Patient Conversation Summarization and Clinical Prediction are two important aspects of this research, aimed at improving the quality of care for patients.

Doctor-Patient Conversation Summarization aims to provide medical practitioners with a concise and clear summary of the patients' questions and concerns, which can help them better understand the patients' needs and provide more effective care. By using deep learning models, the tool could potentially analyze the patients' conversations and extract key information, presenting it in a way that is easy to understand and use.

Clinical prediction, in contrast, seeks to assist healthcare professionals in assessing the seriousness of patient conditions. By utilizing transformer models and other advanced deep learning methods, the tool can potentially analyze summarized patient conversations and other patient information, providing practitioners with an estimate of the condition's severity. This could aid healthcare providers in making more precise and swift severity assessments, resulting in more timely and appropriate interventions for patients.

Overall, the goal of this research is to develop a tool that can improve the quality of care for patients by supporting practitioners in their diagnostic processes. By providing them with a clear summary of the patients' questions and a list of possible diagnoses, the tool could potentially help practitioners provide more effective and efficient care, leading to improved patient outcomes and a higher quality of care overall.

**Keywords:** Machine Learning, Data Science, Transformers