



Harmonious Healing: Bridging Linguistic Divides in Pediatric Otolaryngology Sleep Apnea Consultations with ChatGPT

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Introduction

In the era of sophisticated AI language models, accurate automated translations are crucial, particularly in healthcare, where decisions profoundly affect patient care. This study assesses ChatGPT's translation reliability for pediatric otolaryngology sleep apnea screening questions into Arabic, Mandarin Chinese, and Spanish. We compared AI-generated translations with those by medical and linguistic professionals using the BLEU index.

Aims and Objectives

- 1.) Evaluate the efficacy of AI when attempting to bridge language barriers and gaps in communication between healthcare providers and their patients.
- 2.) Observe the accuracy of the AI when it is compared to the translations of a medical professional versus a linguistic professional.
- 3.) Determine if AI has potential future uses within the field of healthcare, and if it can be used in a way that maintains the safety and privacy of patients.

Methods

A standardized otolaryngology screening questionnaire for pediatric sleep apnea was sent to six total faculty members that are fluent in the three languages of interest (Arabic, Mandarin Chinese, and Spanish).

Two faculty members were paired for each language, with one faculty member being a medical professional employed by a medical school and the other employed as a language teacher at the affiliated undergraduate university.

The six translations of the various questions within the questionnaire were all compared to the ChatGPT generated translations and analyzed for their accuracy using the Bilingual Evaluation Understudy Index (BLEU).

Results

Research is being presented as a work in progress.

Conclusions

BLEU allowed a direct comparison between AI-generated translations and translations provided by medical faculty and the linguistic faculty. Further evaluation methods that may be explored in future studies include observing the use of these translations in a real-world setting and noting their impact on factors such as trust, empathy, and understanding. Other studies may look to expand the generalizability of this study and analyze AI-generated translations within other fields of medicine.

Discussion

This study highlights the ever-growing utility of ChatGPT when applied in a practical setting. It is important to note that this tool should not be used to circumvent conventional tools or methods, but if it is determined to be a reliable option then the possibilities are truly limitless..

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