Evaluating Obstetrical Anesthesia Grant Proposal Generated By Artificial Intelligence (chatGPT3)

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Introduction

AI (Artificial Intelligence)
- chatGPT (Generative Pretrained Transformer)
- Large Language Models
- "Understand" and generated natural language
- Translation, text summarization, question-answering

GPT and Medical Content
- Create content
- Summarize, Editing and Refining

Downside of GPT
- Premature: not fine-tunning for medicine
- Hallucination effect

Objective
- GRANT

Methods

- Text submitted: "Write a grant proposal to set up a collaborative research system among four University affiliate hospitals. The research topic is Obstetrical Anesthesia"
- Scanned for plagiarism
- Readability: five scales
- Experts graded the content

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Results

Parameters	chapGPT
Characters (With Space)	2969
Characters (No Spaces)	2551
Pages	2
Word Count	412
Number of Sentences	29
Words Per Sentence	14.28
Characters Per Word	6.04
Percentage of Difficult Words (Estimated)	26.9

Table 1. Parameters generated by chapGPT

Results

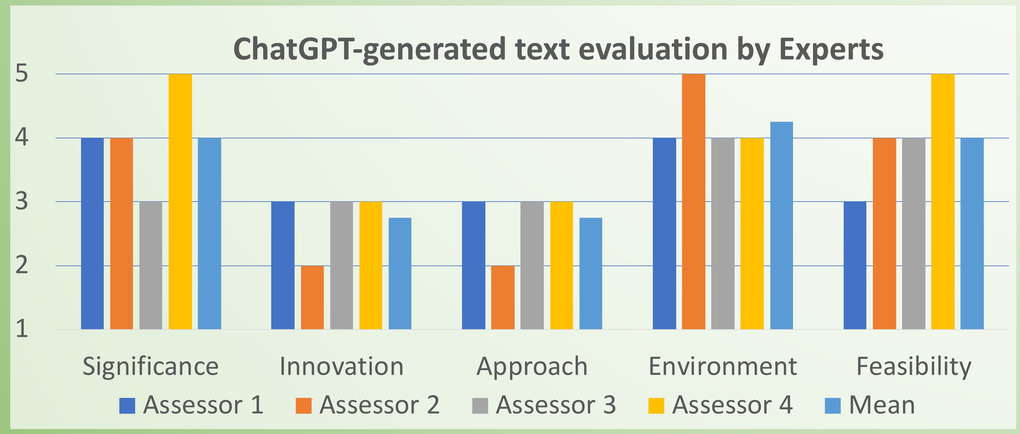
Scales	Score	Reading Level
Flesch Reading Ease	18.2	University Graduates
Gunning Fog Level	16.2	College Senior
Flesch-Kincaid Grade Level	14.3	High School or Early College
Dale-Chall Score	11.6	Average Reading Level
Fry Readability Grade Level	15	High School

Table 2. Readability scales, scores and corresponding reading levels

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Note: score 1 (weak) to 5 (strong)

Discussion

- Time
- Room for human improvement
- ICML (International Conference on Machine Learning) 2023
- Starting point
- Next step: Compare AI-generated grant proposal to a human-created one

References

- OpenAI's ChatGPT (OpenAI,2021)
- Jonsson A, Svingby G. The use of scoring rubrics: Reliability, validity and educational consequences. Educ Res Rev. 2007;2(2):130–144
- https://datayze.com/readability-analyzer.php
- https://icml.cc/Conferences/2023/llm-policy
- https://arxiv.org/pdf/2303.12712.pdf

"AI IS HERE TO STAY, SO BE PREPARED AND UNDERSTAND THE RIGHT WAY TO USE IT"