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COMPARISON BETWEEN *CHAT GEMINI* AND CHATGPT: A CRITICAL ANALYSIS OF ADVANTAGES AND DISADVANTAGES

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Abstract: This article presents a comparative analysis between the *Chat Gemini and ChatGPT* conversational language models, highlighting their characteristics, functionalities, advantages and disadvantages, based on a systematic review of scientific literature, reliable internet sources and practical tests.

Keywords: Conversational Artificial Intelligence, Chat Gemini, ChatGPT, Text Generation, Language Translation, Creative Writing.

INTRODUCTION

Conversational artificial intelligence (IAC) has been revolutionizing the way we interact with machines, enabling natural and fluid dialogues between humans and computer systems. In the IAC scenario, conversational language models (MLCs) stand out for their ability to generate text, translate languages, answer complex questions and perform many other tasks. Among the most popular MLCs are Chat *Gemini and ChatGPT*, both offering advanced features for various applications. Both play a crucial role, enabling fluid and relevant interactions with users.

The objective of this work is to carry out a critical comparison, evaluating the strengths and weaknesses of Chat Gemini and ChatGPT.

METHODOLOGY

This comparative analysis was based on a rigorous methodology, consisting of three main stages:

This comparative analysis is based on a systematic review of scientific literature and reliable internet sources, as well as practical tests with both models. The following aspects were considered:

- **Architecture and Training:** Technical approach used to build the model, including the size of the training dataset and the optimization methods used.

- **Features and Functionality:** Set of features offered by the model, such as generating different text formats, translating languages, creative writing and answering complex questions.

- **Performance and Accuracy:** Quality of results generated by the model, including coherence, fluidity, relevance and factuality.

- **Usability and Integration:** Ease of use of the template and compatibility with different platforms and tools.

- **Advantages and Disadvantages:** Summary of the strengths and weaknesses of each model, considering the previously mentioned aspects.

PRACTICE TESTS

Both models, *Chat Gemini* and *ChatGPT*, were tested with different tasks and types of input, in order to evaluate their performance in practice. Tasks included generating different text formats (poems, *scripts*, musical pieces, e-mails, letters, etc.), language translation, creative writing, and answering complex questions. Test results were recorded and analyzed to identify the strengths and weaknesses of each model.

RESULTS

In table 1 you can see the analysis of *Chat Gemini:*

Table 2 shows the analysis of *ChatGPT*:

Table 3 shows the purchase of *Chat Gemini vs.* ChatGPT.

The table above presents an overview of the main aspects of the *Chat Gemini* and *ChatGPT* models. It is important to consider the specific needs of each application to choose the most suitable model. Both models are under constant development, so their functionality and performance can be improved in the future.

The choice between *Chat Gemini* and *ChatGPT* depends on the specific needs of each user or application. Chat Gemini stands out for its factual accuracy and access to real-time information, while ChatGPT stands out for its creativity and adaptability to user writing. It is important to consider the strengths and weaknesses of each model before deciding.

CONCLUSION

Chat Gemini and ChatGPT are powerful tools for natural communication with artificial intelligence, offering diverse features and functionalities for different applications. The choice between the models must be made based on Table 4 where we observe the comparison of both.

Aspects	Description
Architecture and Training	Based on the Transformer architecture, trained on a huge *dataset* of text and code, with a focus on multitask learning.
Features and Functionality	Generation of different text formats (poems, *scripts*, musical pieces, emails, letters, etc.), language translation, creative writing, answering complex questions, accessing and processing information from the web in real time.
Performance and Accuracy	High level of coherence, fluidity and relevance in the results generated, with good factuality and adaptation to the context of the conversation.
Usability and Integration	Friendly and intuitive interface, compatible with various platforms and tools, including APIs and SDKs for integration into applications and *websites*.
Advantages	Wide range of functionalities, high level of performance and accuracy, ease of use and integration.
Disadvantages	It requires *internet* access to process information in real time, a model still under development with frequent updates.

Table 1: Analysis *Chat Gemini*.

Aspects	Description
Architecture and Training	Based on the GPT-3 architecture, trained on a huge *dataset* of text and code, with a focus on natural language generation.
Features and Functionality	Generation of different text formats (poems, *scripts*, musical pieces, emails, letters, etc.), language translation, creative writing, answering complex questions.
Performance and Accuracy	High level of coherence and fluidity in the results generated, with good creativity and adaptation to the user's writing style.
Usability and Integration	Friendly and intuitive interface, compatible with various platforms and tools, including APIs and SDKs for integration into applications and *websites*.
Advantages	Wide range of functionalities, high level of creativity and adaptability to user writing, ease of use and integration.
Disadvantages	Lower factual accuracy compared to Chat Gemini, a closed model without internet access for processing information in real time.

Table 2: *ChatGPT* analysis.

Aspect	*Chat Gemini*	*ChatGPT*
Architecture	• Transformer	• GPT-3
Training	• Text and code *data set*	• *Data set* de texto e código
Functionalities	• Generation of different text formats; • Language translation; • Creative writing; • Answering complex questions; • Access and process information from the *web* in real time	• Generation of different text formats; • Language translation; • Creative writing; • Answering complex questions
Performance	• High factual accuracy; • Good fluidity and coherence; • High capacity to adapt to the context; • Access to real-time information	• High creativity; • Good adaptability to user writing; • Fluidity and coherence in text generation.

Usability	• Friendly and intuitive interface; • Compatible with different platforms and tools; • APIs and SDKs for integration into applications and *websites*.	• Friendly and intuitive interface; • Compatible with different platforms and tools; • APIs and SDKs for integration into applications and *websites*;
Advantages	• Wide range of features • High level of performance and accuracy • Ease of use and integration • Access to real-time information	• Wide range of features • High level of creativity and adaptability • Ease of use and integration
Disadvantages	• It requires internet access to process information in real time; • Model still under development with frequent updates.	• Lower factual accuracy compared to *Chat Gemini*; • Closed model without internet access for real-time information processing.

Table 3: *Gemini vs. Chat* Comparison *ChatGPT.*

Aspect	*Chat Gemini*	*ChatGPT*
Architecture	• Transformer	• GPT-3
Training	• Text and code data set	• Text and code data set
Functionalities	• Text generation, translation, creative writing, question answering, web access	• Text generation, translation, creative writing, question answering
Performance	• High factual accuracy, good fluidity and coherence	• High creativity, good adaptability to user writing
Usability	• Friendly, compliant interface.	• User-friendly interface

Table 4: Comparison of the *Chat Gemini* vs. *ChatGPT.*

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