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EXPLORING THE POTENTIAL OF CHATGPT IN SATELLITE IMAGE ANALYSIS: BEYOND NDVI VISUALIZATION

Abstract

Satellite image analysis has traditionally been regarded a domain reserved for experts due to its technical complexity and the specialized expertise it requires. However, recent progress in artificial intelligence, notably with models such as CHATGPT(Conversational Humanoid Agent Technology Generalized Pre-trained Transformer), has expanded opportunities for individuals without specialized expertise to participate in tasks previously considered the domain of experts. This study explores the potential of utilizing the AI model CHATGPT in satellite image analysis, going beyond the previous study's focus on Normalized Difference Vegetation Index (NDVI) visualization, by harnessing its natural language understanding capabilities. By extending the scope of CHATGPT's applicability to satellite image analysis, this research aims to investigate the feasibility and limitations of implementing AI-driven approaches in this field. Additionally, the study seeks to uncover insights into the implications and opportunities associated with democratizing satellite image analysis, enabling individuals without specialized expertise to perform tasks previously restricted to professionals. One of the key motivations for this research is to assess the impact of leveraging CHATGPT in satellite image analysis on resource-constrained entities, such as startups with limited capital. By understanding the extent to which CHATGPT can mitigate the need for expert resources in satellite image analysis, valuable insights can be gained into the potential cost savings and efficiency improvements for businesses operating in this space. Moreover, democratizing satellite image analysis has broader implications beyond the business sector. It empowers individuals from diverse backgrounds to contribute to important tasks such as environmental monitoring, disaster response, and urban planning, thereby fostering greater inclusivity and collaboration in addressing global challenges. In conclusion, this study not only explores the technical capabilities of CHATGPT in satellite image analysis but also examines its implications for business models, resource allocation, and societal participation in leveraging satellite imagery for various applications. The findings of this research are expected to contribute to the ongoing discourse on the democratization of AI technologies and their impact on diverse domains, including satellite image analysis.