What are Large Language models being used for?
The role of Japanese scientific publications

Name (in Japanese and English)

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1 Objective

To provide a summary of the themes being discussed in scientific papers about Large Language Models. In summary we focus on answering two research questions: 1) what the themes published as seen from the papers' objectives 2) how scientific publications from Japan are contributing to these themes.

2 Methods

We will achieve the objectives and answer our research questions via the implementation of systematic literature review process of the published scientific articles indexed in the Open Alex database. We will look to the documents retrieved using the search query: '"Large Language Model" OR "Large Language Models" OR "Generative Pre-trained Transformer" OR "Generative Pretrained Transformer".' We will extract the objectives of these papers; from those objectives we will obtain a keyword and create a network of their relationships. From the network of objective keywords co-occurrence, we will identify the answer to our first research question, the themes as clusters of papers sharing similar objective keywords and provide a summary for each. For our second research question, we will filter the network to visualize only papers published by Japanese affiliations and do a comparison by cluster on how much in numbers of documents and citations do Japanese affiliated papers contribute to each cluster.

3 Results

Based on the analysis from the answers to our two research questions, we will provide a discussion on the themes that Japanese publications have more presence or impact and in which not. These results will be put into the context of the scientific and technological priorities mentioned by MEXT in the white paper on Science, technology, and Innovation 2024.

4 Conclusion

We expect to provide a vision (via scientific publications) of what is the current role of Japan in the academic development/discussion about LLMs, this vision will be put into context into the country's objectives via the expectations of the impacts of Artificial Intelligence expressed in the MEXT in the white paper on Science, technology, and Innovation 2024.

References