

Peer Review

Review of: "LiLMaps: Learnable Implicit Language Maps"

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First of all, I am not an expert in the field of large models or LLM. To my understanding, the paper presents a framework that utilizes RGB-D streams to reconstruct the surrounding environment to the level of language models. This framework does not assume that the objects' models and the view field are fixed. In other words, with more and more measurements at different view directions, this framework can output more accurate model estimations, which is validated in the experiment.

The motivation and proposed framework of this paper are solid. However, there are some issues that need to be addressed.

The problems suggested to be resolved are:

1. It is important to add some sentences about the research background to the introduction, such as what other works have done, followed by the gaps waiting to be minimized.
2. Figure 1 does not provide adequate information about the work. What do the different colors represent? Regarding "Semantic colors are assigned based on the similarity of reconstructed language features and CLIP encodings of semantic categories," does it mean the colors are relevant to another work, CLIP? If it does, why do that?
3. No clear pipeline flowchart is provided. It is difficult for the reader to understand what this work is doing and what the key steps are. Figure 2 does not provide adequate information about the work. What are F vectors? There is not much information about F vectors in the caption. What are the language features? Are they something like labels? Maybe the reader can understand these terms after reading the whole paper. However, when Figure 2 pops up in Chapter 3, the reader cannot easily understand the figure. Furthermore, the words in the figure are too small. Try a larger font size?

4. In my opinion, the authors should use a couple of sentences in the experiment section to explain which steps of your framework are contributing to each experiment's result and how the steps affect the results.
5. In my opinion, the authors should add at least one more work for benchmarking your work in the experiment.

Declarations

Potential competing interests: No potential competing interests to declare.