

Conclusion

- We pointed to the related cognitive and linguistic studies for representation of spatial meaning.
- We introduced some of the related resources and benchmarks for spatial information extraction and training models for spatial representations that can help reasoning.
- Pointed to approaches for mapping the spatial information to 2D/3D representations that can help human-like spatial reasoning.
- We reviewed several downstream tasks where they paid or did not pay attention to spatial information explicitly and we pointed to the possible research directions.
- We showed the gap between the past studies and what is used in current deep learning models for downstream tasks.

Conclusion

- The current deep architectures ignore the cognitive linguistic studies on how space is expressed in language.
- There are no appropriate benchmarks to evaluate the capabilities of the deep architectures and language models for spatial language understanding and reasoning on spatial language.
- Spatial meaning representation is still a challenging topic despite all the past linguistic and cognitive studies.
- Spatial language understanding needs common sense about object affordances and real-world situations.
- We need more sophisticated models that take the explicit spatial semantics into account to be able to rely on them in real-world scenarios and unobserved situations.

Tutorial Webpage

We will add all the related info and link in here:

- <https://spatial-language-tutorial.github.io>



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