Deep Neural Network for Multi-Hop Question Answering

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Introduction

https://pinngle.me/blog/20-amazing-facts-to-know-about-chatbots/

Question Answering (QA) focuses on building QA systems by giving the ability to the computer to understand human's questions and answer them based on some methods.

Open-domain vs. Closed-domain

- Open-domain QA refers to systems that answer any domain-independent question.
- Closed-domain QA systems only answer questions from a specific domain.

Supporting Information

- Text-based: Supporting information is raw text, and hence the query is also text.
- Knowledge-based: Supporting information is from structured knowledge bases (KBs) but the queries can be either structured or natural language utterances.
- Mixed: Mixed QA tasks combine both text and KBs.

Single-hop vs. Multi-hop

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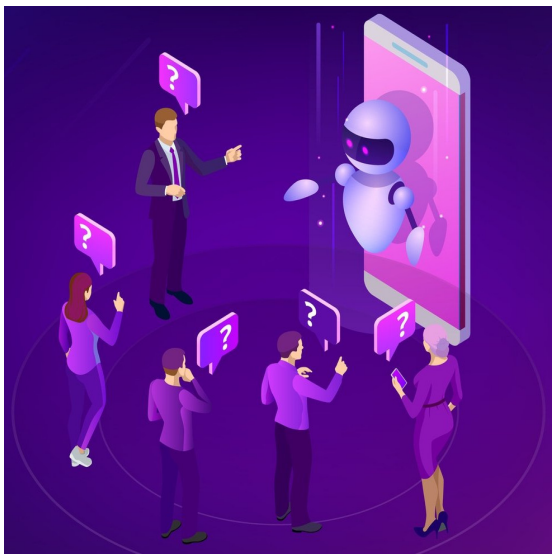
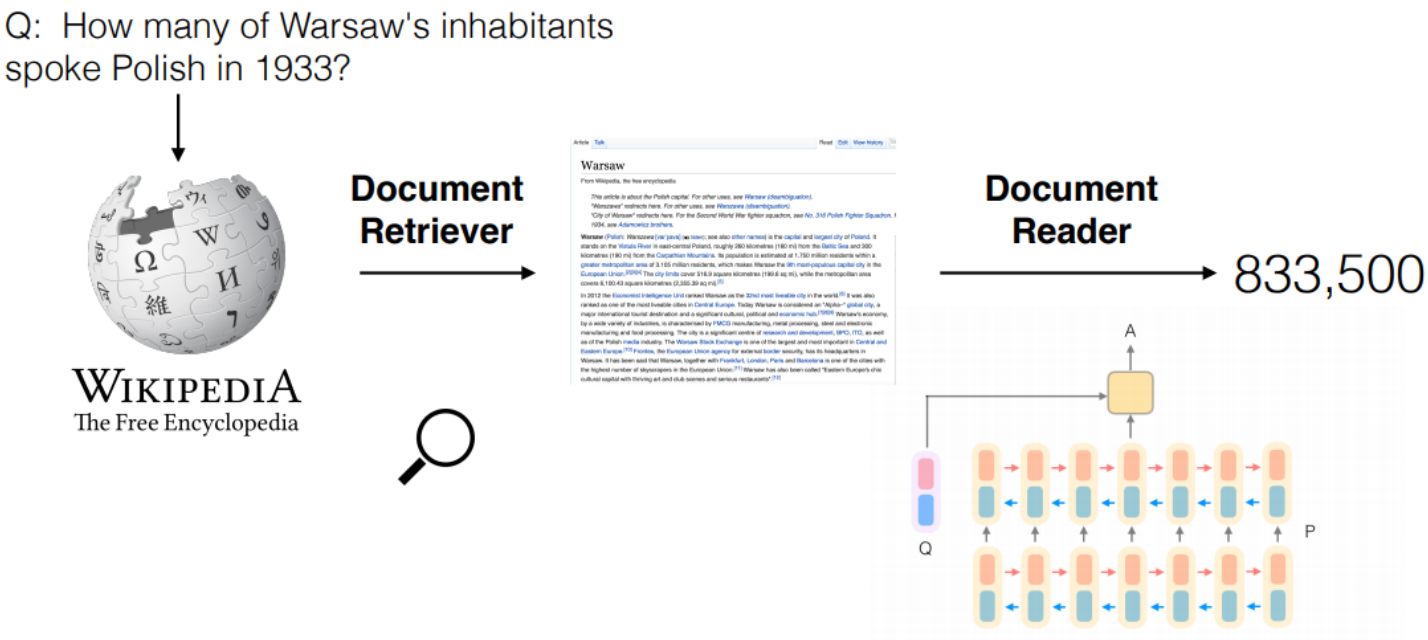
  - Example: What is the capital city of Iran?
- Multi-hop QA: Requires identifying multiple related facts and reasoning about them.
  - Example: What is the capital city of the largest state in the Asia?



http://www.rte.ie/brainstorm/2021/0218/1197882-ireland-artificial-intelligence-strategy-ai/

- Open-domain text-based question answering
- Questions can be both single- and multi-hop

Reading Wikipedia to Answer Open-Domain Questions



Chen, D., Fisch, A., Weston, J., & Bordes, A. (2017, July). Reading Wikipedia to Answer Open-Domain Questions. In Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers) (pp. 1870-1879).

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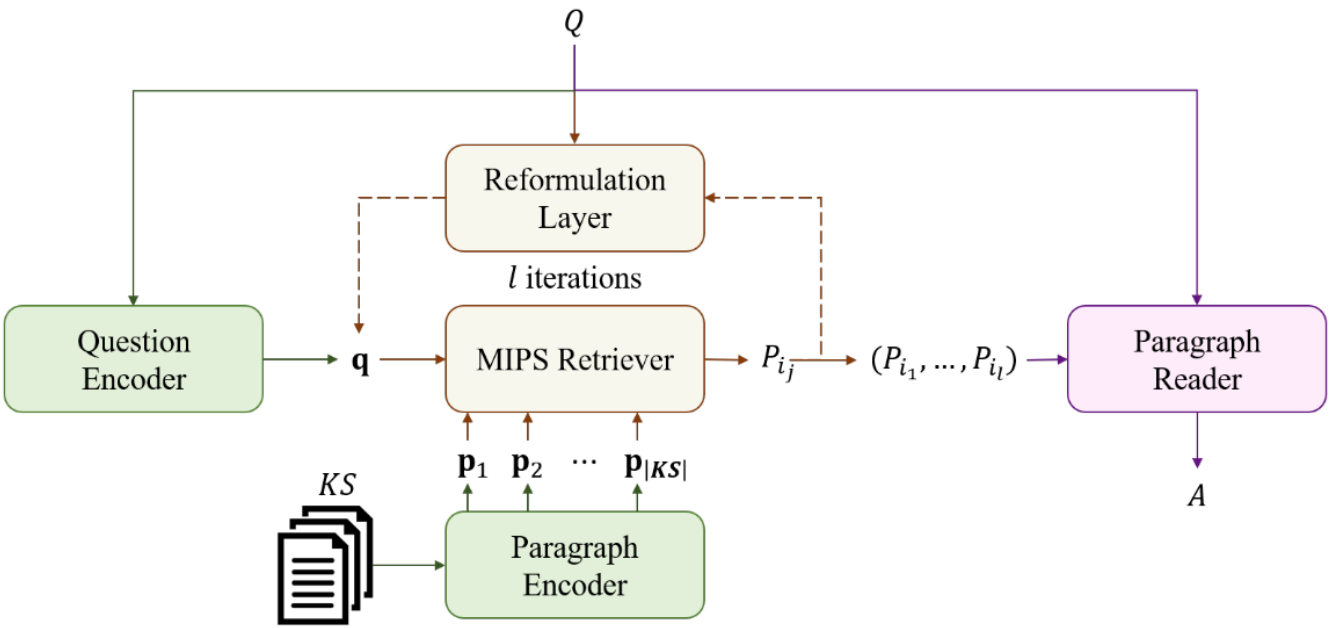
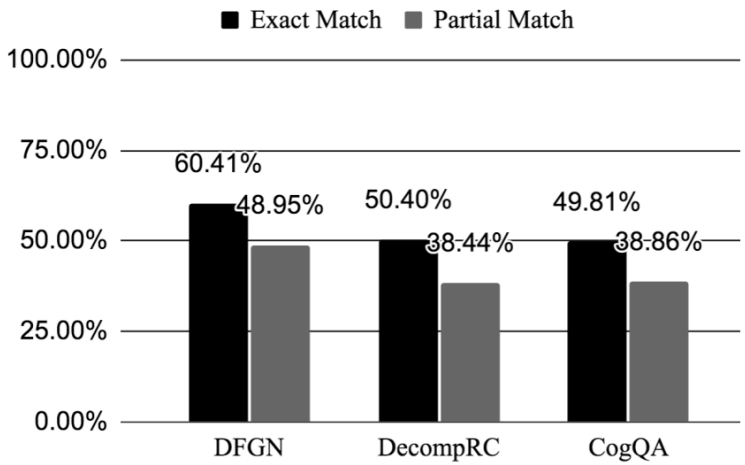
Multi-Hop Paragraph Retrieval for Open-Domain Question Answering



Feldman, Y., & El-Yaniv, R. (2019). Multi-hop paragraph retrieval for open-domain question answering. arXiv preprint arXiv:1906.06606.

Do Multi-Hop Question Answering Systems Know How to Answer the Single-Hop Sub-Questions?



Model failure rates under EM and PM.

Tang, Y., Ng, H. T., & Tung, A. (2021, April). Do Multi-Hop Question Answering Systems Know How to Answer the Single-Hop Sub-Questions?. In Proceedings of the 16th Conference of the European Chapter of the Association for Computational Linguistics: Main Volume (pp. 3244-3249).

Datasets

- SQuAD: Single-hop dataset
- HotpotQA: Multi-hop dataset
- SiMhop: Mix dataset

Here you can add the detail of your proposed architecture and methods.

Here you can add the table of your results.

Conclusion

- Conclude your presentation
- Talk about future works

Thank you for your attention

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Extra pages

You can add extra pages here, without numerating them in total number of pages.