

Evidence Contextualization and Counterfactual Attribution For ConvQA over Heterogeneous Data with RAG Systems

Rishiraj Saha Roy, Joel Schlotthauer, Chris Hinze,
Andreas Foltyn, Luzian Hahn, and Fabian Küch

{rishiraj.saha.roy, joel.Schlotthauer, chris.hinze, andreas.foltyn, luzian.hahn, fabian.kuech}@iis.fraunhofer.de

Fraunhofer-Institut für
Integrierte Schaltungen IIS

RAG over enterprise wikis is challenging

2024-10-02 Meeting Notes

Today we will talk about the progress of the project on retrieval augmented generation.

Agenda

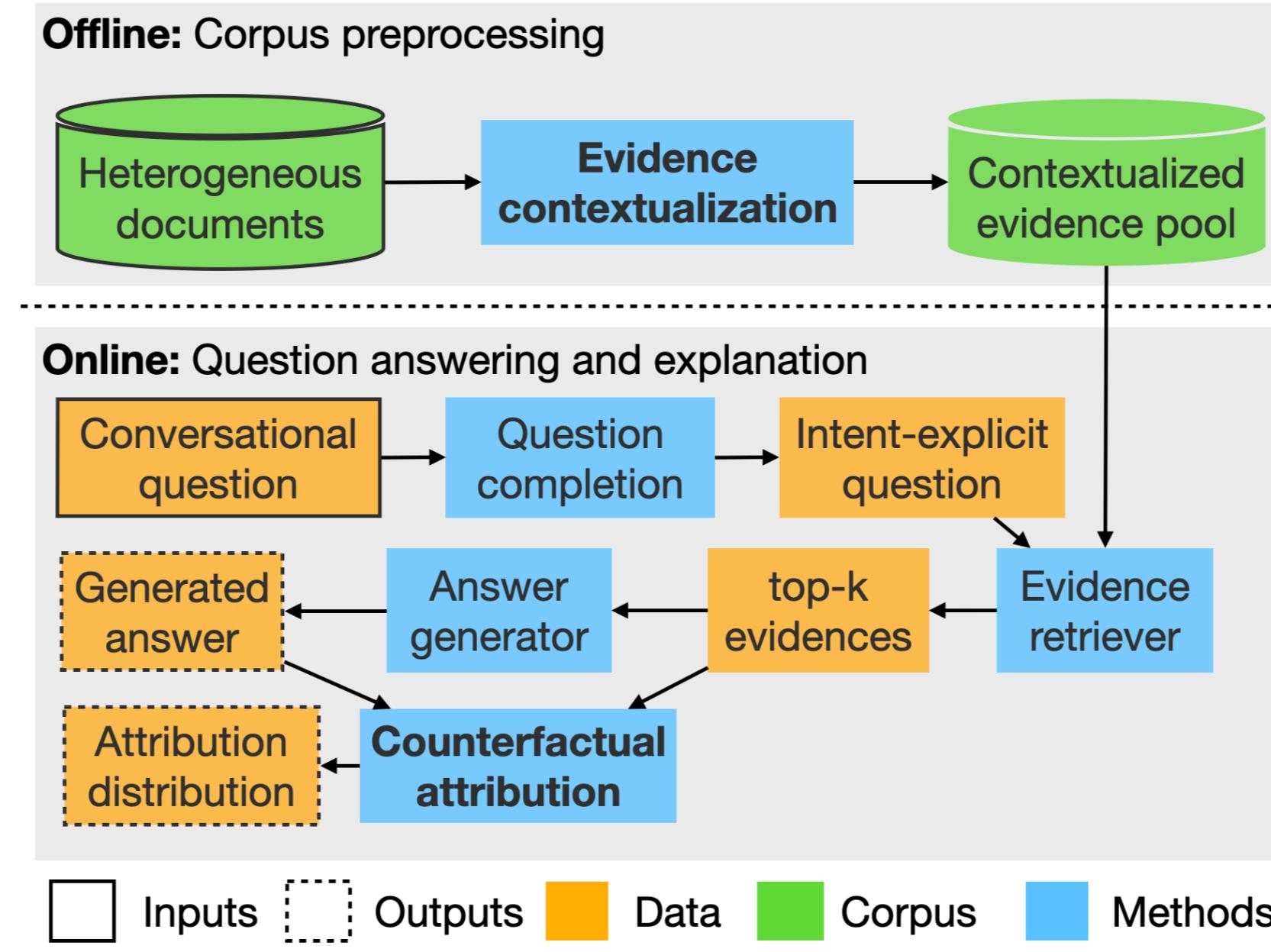
- We'll first do a basic round of RAG team updates in this month's meeting
- Everyone will report what has been done, and the to-dos

Member	Task	Action items	Time needed	Notes
Bob	Basic FE and BE	Follow-up q in UI	3 days	Currently manual
Alice	Similarity function	Fine-tune with gpt4o*	1 week	Now w/ embed cos
Trudy	Verbalizations	Batch configs*	6 hours	Running superbly

* Alice and Trudy to fix long-standing embedding error with openxt strings

Question: todo for alice in oct rag meeting?

We propose solutions... and...

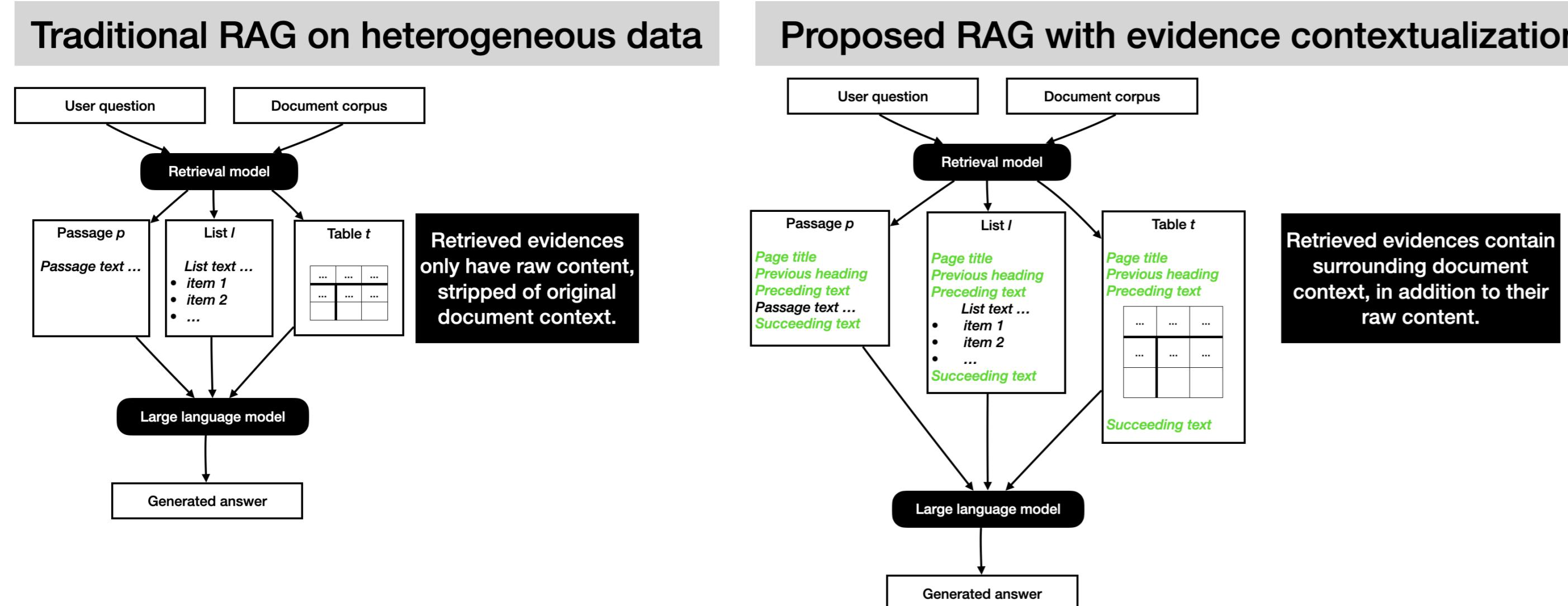


A new benchmark: ConfQuestions

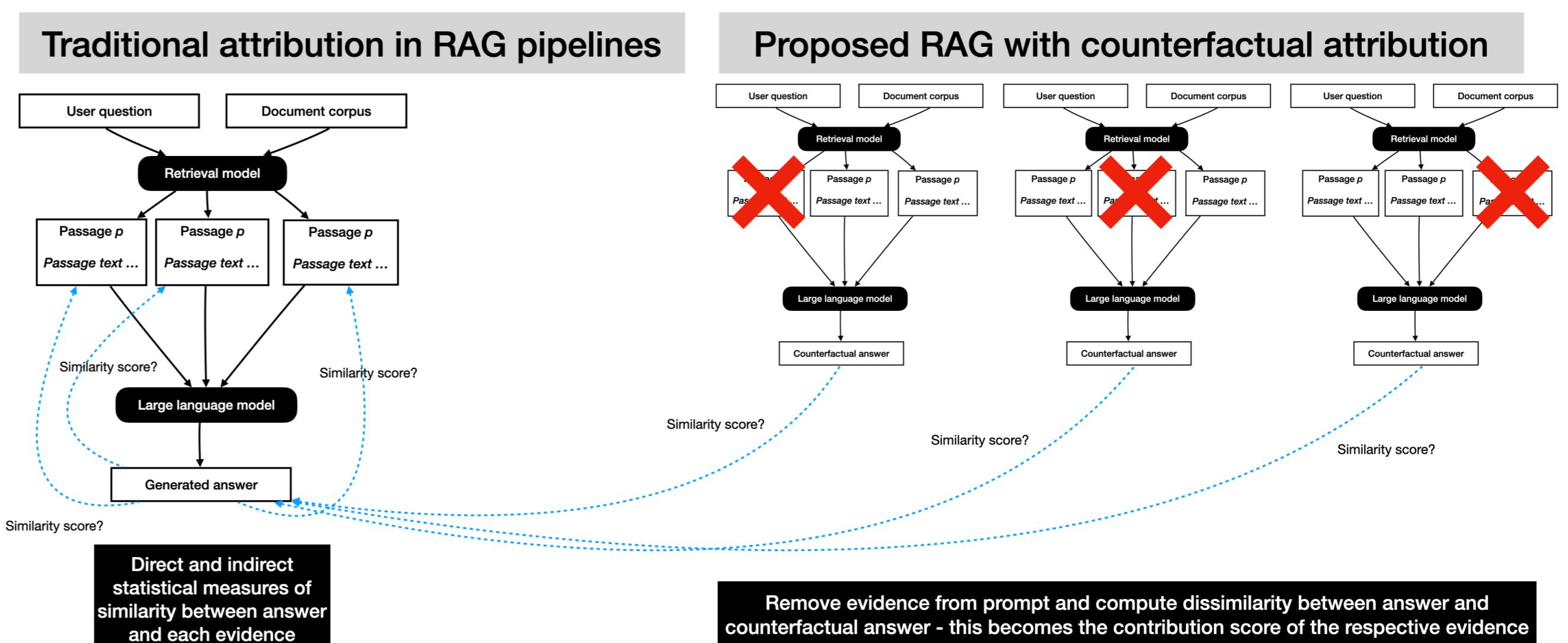
ConfQuestions is suitable for evaluating

- ✓ Conversational question answering
 - ✓ Complex question answering
 - ✓ RAG on heterogeneous enterprise documents
- ConfQuestions contains**
- ✓ 50 human conversations with 300 questions
 - ✓ Corresponding human-generated completed questions
 - ✓ Gold URL and answers: entities, phrases, lists, passages
 - ✓ Each question in English and German
 - ✓ Metadata: Answer-source, Complexity type
 - ✓ 215 Confluence pages as corpus

Idea sketch: Evidence contextualization



Idea sketch: Counterfactual attribution



RAGONITE screenshot

Evaluation results

Retrieval P@1 for CONTEXTUALIZATION methods						Accuracy for ATTRIBUTION methods		
None	w/ Page title	w/ Preceding heading	w/ Preceding text	w/ Succeeding text	w/ All context	Standard	CF	CF with Clusters
0.398	0.483	0.448	0.453	0.460	0.528	0.772	0.791	0.799
Answer relevance for CONTEXTUALIZATION methods								
None	w/ Page title	w/ Preceding heading	w/ Preceding text	w/ Succeeding text	w/ All context			
0.388	0.477	0.435	0.445	0.404	0.529			

Take-home message: Contextualizing evidence with surrounding document text, and explaining answers with counterfactual attribution, are vital RAG add-ons



Scan the QR code for all info on project... ☺

ConfQuestions excerpt

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"conv_id": "1",
"turns": [
  {
    "turn_id": "1",
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    "completed_q_de": "Welches BIOS und welche Build versionen wurden für den Dell Optiplex 7040 im Zuge der OpenXT 9.0 measurement tests eingesetzt?",
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    "a_source": "table",
    "a": "Build version: 6662 and BIOS version: 1.14.0"
  },
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      "https://openxt.atlassian.net/wiki/spaces/TEST/pages/761823271/OpenXT+9.0+Measurement+Test"
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