SJSU
Hardi Trivedi <hardi.trivedi@sjsu.edu>

CAI2025 notification for paper 2408

CAI2025 <cai2025@easychair.org>   Mon, Mar 3, 2025 at 3:43 PM
To: Hardi Trivedi <hardi.trivedi@sjsu.edu>

Dear authors

we are happy to inform you that your paper

2408 : Enhancing Retrieval-Augmented Language Models with Temporal Awareness

has been accepted as FULL PAPER for CAI 2025 - Vertical AI and BUSINESS INTELLIGENCE.

FULL paper acceptance means that the camera ready version of your paper should have 6 pages, plus additional 2 ones that may be allowed at additional charge.

It is up to you authors to shrink your paper in order to comply with those requirements, and to have conformance to the IEEE paper formatting instructions.

To help ensure correct formatting, please use the IEEE style files for conference proceedings as a template for your submission. These include LaTeX and Word style files, which are available at https://template-selector.ieee.org/secure/templateSelector/publicationType (choose Conferences > LaTeX | Word).

The deadline for camera ready submission of your paper is 10 March 2025, please start preparing it.

You will receive instructions about how to submit the camera ready and copyright form in a later email.

In addition, please be informed that at least one author must register to the CAI 2025 conference by March 10.

Each paper should have associated a DISTINCT full registration (no student one is allowed, if the student is the only author presenting the paper and associated with it).

Find below the reviews of your paper, to be taken into account when preparing your camera ready version.

Congratulations again for your achievement and looking forward to meeting you at CAI 2025

--CAI 2025 PC co-Chairs and Vertical Chairs

SUBMISSION: 2408

TITLE: Enhancing Retrieval-Augmented Language Models with Temporal Awareness

---------------------- REVIEW 1 --------------------

SUBMISSION: 2408

TITLE: Enhancing Retrieval-Augmented Language Models with Temporal Awareness

AUTHORS: Anoushka Gade, Jorjeta Jetcheva and Hardi Trivedi

----------- Overall evaluation -----------

SCORE: 1 (weak accept)

----- TEXT:

Strengths:

1.High Novelty:

TempRALM addresses a critical gap by integrating temporality into RALMs, achieving state-of-the-art performance on time-sensitive QA through dual semantic-temporal optimization.

Tablepedia automates dataset creation via tabular parsing, enabling zero-shot domain adaptation without human intervention.

2.Empirical Superiority:

Demonstrates 74% improvement over ATLAS and 32% over GPT-3.5 RAG on temporally misaligned queries (e.g., TPQ-2020), with rigorous statistical validation.

3.Low-Cost Deployment:

Dynamic scoring bypasses costly retraining/index replacement, making it practical for industrial systems requiring real-time document updates.

4.Cross-Domain Potential:

Success on tennis/Oscars datasets suggests applicability to finance (e.g., earnings reports) and healthcare (e.g., clinical trial logs).

Weaknesses:

1.Dataset Bias:

Experiments focus on structured tables with explicit timestamps, neglecting noisy scenarios (e.g., social media posts with implicit temporal context).

2.Oversimplified Temporal Logic:

Linear time decay (Eq. 2) contradicts real-world temporal dynamics (e.g., periodic trends in stock markets).

3.Incomplete Technical Analysis:

No ablation studies on semantic-temporal score fusion (e.g., learnable weights in Eq. 4) or normalization alternatives (e.g., sigmoid scaling).

4.Lack of Real-World Testing:

Absence of latency/efficiency metrics in live streaming environments (e.g., news aggregation platforms).

---------------------- REVIEW 2 --------------------

SUBMISSION: 2408

TITLE: Enhancing Retrieval-Augmented Language Models with Temporal Awareness

AUTHORS: Anoushka Gade, Jorjeta Jetcheva and Hardi Trivedi

----------- Overall evaluation -----------

SCORE: 1 (weak accept)

----- TEXT:

This paper introduces and evaluates a temporally-aware augmentation for retrieval-augmented language models (RALMs), taking into account both semantic and temporal relevance. It demonstrates good performance when compared to state-of-the-art models and the authors' own created datasets.

Limitation: The authors propose a method to generate a dataset for validation, using scenarios such as tennis matches and Oscars awards. However, these scenarios are relatively simple. More complex, time-sensitive data, such as data involving logical relationships, should be tested to further validate the model's capabilities.

---------------------- REVIEW 3 --------------------

SUBMISSION: 2408

TITLE: Enhancing Retrieval-Augmented Language Models with Temporal Awareness

AUTHORS: Anoushka Gade, Jorjeta Jetcheva and Hardi Trivedi

----------- Overall evaluation -----------

SCORE: 2 (accept)

----- TEXT:

#Reviewer#

This paper puts forward and evaluates an enhanced language model of time-aware retrieval with small sample learning ability, and introduces a new method, which has excellent performance and good test results. However, several points related to the thesis seem unclear. I ask the author to make amendments according to the following points before publishing in the corresponding journals:

1.The abstract part of the article lacks the explanation of some English abbreviations of professional terms, which may cause misunderstanding with other related abbreviations, such as ATLAS and LIM. It is suggested to amend and supplement them.

2.The citation of references in the article should be arranged in order, following the principle that the serial numbers of references appear in order from small to large.

3.In this paper, commercial LLM GPT-3.5 is used to evaluate TempRALM. At present, there is version 4.0 of GPT. Will there be a big gap between the two? Suggest to add a note.

4.In the second chapter of the article, there are mistakes when quoting literature 11. There is a comma before and after the quoted literature, which needs to be revised to ensure that readers can understand what is in the quoted literature.

5.In terms of data collection, it is suggested that the following two short data introductions be placed in the first paragraph of this chapter where the data first appeared.

6.The article lacks a detailed introduction to some formulas, so it is suggested to add a paragraph in front of each formula, with the following publicity or expression.

7.It is suggested that the picture format of the article be unified and changed to the center format.

8.There are format errors in table 1 and table 2 in the article. For the paper, the name of the table is placed above the table and the name of the picture is placed below the picture.

9.Some other important research or methods about language model are omitted from the article, Lack of contrast.

10.At the end, it is mentioned that the model is used in two data sets, so can it show its practicability in a wide range of fields? It is necessary to consider the generalization ability and real-time performance of the model in practical application, and whether it has good robustness. It is suggested to add explanations.

1、文章摘要部分缺乏对部分专业名词英文缩写的解释，可能和其他相关缩写词汇造成误识别，如ATLAS、LIM，建议修改补充一下；

2、文章中参考文献的引用要按照顺序排列，遵循文献引用的序号从小到大依次出现的原则；

3、文章采用商业LLM GPT-3.5来评估TempRALM，就目前而言GPT存在4.0版本，两者差距会不会较大？建议补充说明一下；

4、文章在第二章节引用文献11的时候，存在错误，该引用文献前面和后面都存在一个逗号，需要修改一下，确保让读者理解是引用的文献中什么内容；

5、在数据收集方面，建议将后面的两小段数据介绍放到该章节的第一段该数据第一次出现的位置；

6、文章缺乏对部分公式的详细介绍，建议在每个公式的前面一个段落加上，公示如下或表达式如下；

7、文章图片格式建议统一一下，统一改为居中格式；

8、文章中表格一和表格二存在格式错误，针对论文而言，表格的名称放在表格的上方，图片的名称放在图片的下方；

9、文章中遗漏了关于语言模型其他某些重要的研究或方法，缺少对比；

10、结尾部分谈及模型使用于两个数据集，这样能否展现出其在广泛领域的实用性？需要考虑模型在实际应用中的泛化能力和实时性如何，是否具有较好的鲁棒性，建议补充说明。