

HOW IT WORKS?

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C:\Users\iamsa\PycharmProjects\myproject\venv\Scripts\python.exe C:\Users\iamsa\AppData\Roaming\JetBrains\PyCharmCE2022.3\scratches\improve.py
Enter the topic for research papers: LLMs
Enter the timeframe (e.g., 'Within 1 Month'): Within 1 Month
```

Step 1: User Input And Query Generation: The user is asked to input the topic on which he wants to read the research papers. There can be as many topics as there exist on the web for which the research papers can be fetched. After receiving the initial input, the user is then asked to enter a timeframe as the research papers will be gathered from this time period. Both inputs are used by a function named `generate_openai_query()` that is used in the generation of the search query based on the user's topic and timeframe. This is important as it tailors the query to the user's input, ensuring the generated query is relevant and specific to the user's research interest.

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List of Research Papers:
1. Legal-Tech Open Diaries: Lesson learned on how to develop and deploy light-weight models in the era of humongous Language Models
  URL: https://arxiv.org/abs/2210.13086
2. GPT Takes the Bar Exam
  URL: https://arxiv.org/abs/2212.14402
3. Large Language Models as Tax Attorneys: A Case Study in Legal Capabilities Emergence
  URL: https://arxiv.org/abs/2306.07075
4. A Short Survey of Viewing Large Language Models in Legal Aspect
  URL: https://arxiv.org/abs/2303.09136
5. Law Article-Enhanced Legal Case Matching: a Model-Agnostic Causal Learning Approach
  URL: https://arxiv.org/abs/2210.11012
6. LegalMFIT: Efficient Short Legal Text Classification with LSTM Language Model Pre-Training
  URL: https://arxiv.org/abs/2109.00993
7. How Smart are Smart Readers? LLMs and the Future of the No-Reading Problem
  URL: https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=4491043
8. Legal Prompting: Teaching a Language Model to Think Like a Lawyer
  URL: https://arxiv.org/abs/2212.01326
9. Parameter-Efficient Legal Domain Adaptation
  URL: https://arxiv.org/abs/2210.13712
10. Legal Prompt Engineering for Multilingual Legal Judgement Prediction
  URL: https://arxiv.org/abs/2212.02199
```

Step 2: Research Paper Search And Display: In the second step, the program uses the Metaphor API to search for research papers based on the generated search query from the previous step. The Metaphor API is accessed using the Metaphor class provided by the `metaphor_python` package. The search function of the Metaphor API is invoked, providing the generated search query. The Metaphor API searches for recent research papers related to the specified topic and timeframe. The search results, including paper titles and URLs, are retrieved and stored for further use. To display the results in a user-friendly manner, the program uses the `display_paper_list_with_indexes` function. This function formats and prints the list of research

papers, including their titles and corresponding URLs, making it easy for the user to explore the search results.

```
Enter the index of the paper to summarize (or 'exit' to quit): 9
Summary for Paper 9: The paper titled "Transferring Chemical Intuition across Biomolecular Interactions using Graph Neural Networks" discusses the application of Graph Neural Networks (GNNs) to transfer chemical intuition from known protein-ligand complexes to new, unseen complexes.
The authors propose a method for transferring chemical intuition by leveraging the power of GNNs. They focus on predicting binding affinities, which is a measure of how strong the interaction is between a protein and a ligand.
The authors demonstrate the effectiveness of their approach by evaluating it on various datasets, including binding affinities of protein-ligand complexes and small molecules.
Furthermore, the authors perform extensive analysis and ablation studies to understand the contribution of different components of their method. They also discuss potential limitations and future work.
Overall, this paper presents a novel method for transferring chemical intuition using GNNs, which shows promising results in predicting biomolecular interactions. The approach
Enter the index of the paper to summarize (or 'exit' to quit): exit
Process finished with exit code 0
```

Step 3: Summarizing a Selected Research Paper: In the final step, the program allows the user to select a research paper from the displayed list for summarization. The user is prompted to enter the index of the paper they want to summarize. The program validates the user's input and, if valid, uses the `get_paper_summary` function to generate a summary for the selected research paper. The `get_paper_summary` function uses the GPT-3.5 Turbo model through the `ChatCompletion.create` function to generate a summary based on the content of the selected paper. The resulting summary is then displayed using the `display_paper_summary` function, which formats the summary to ensure a maximum of 100 characters per line, making it more readable and aesthetically pleasing for the user.