TEXT MINING SCHOLARLY PUBLICATIONS USING APIS

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RESEARCH QUESTION

How can I create an automated pipeline that will make it easy to deal with copyright licenses so that researchers can create custom datasets easily?

THE PROBLEM

Researchers want to create custom datasets to mine and analyze publications (Bertin & Atanassova, 2018).

They need access to full text of digital publications that have copyright licenses.

Dealing with copyright licenses is time-consuming and difficult.

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METHODS

DATA COLLECTION PIPELINE

01

Get the DOI from the user and supply it to the Crossref TDM API.

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Get the license URL and full text URLs.

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Get the license URL and full text URLs.

03

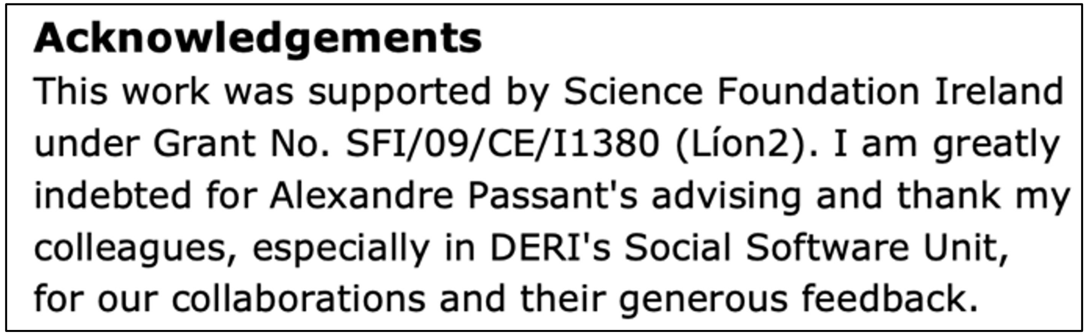
Store the full text (if available) in the database.

REQUIREMENTS ANALYSIS

To identify tasks that can use my pipeline, I am interviewing researchers who mine and analyze publications.

RESULTS

TASK 1: FUNDER INFORMATION EXTRACTION



Acknowledgements

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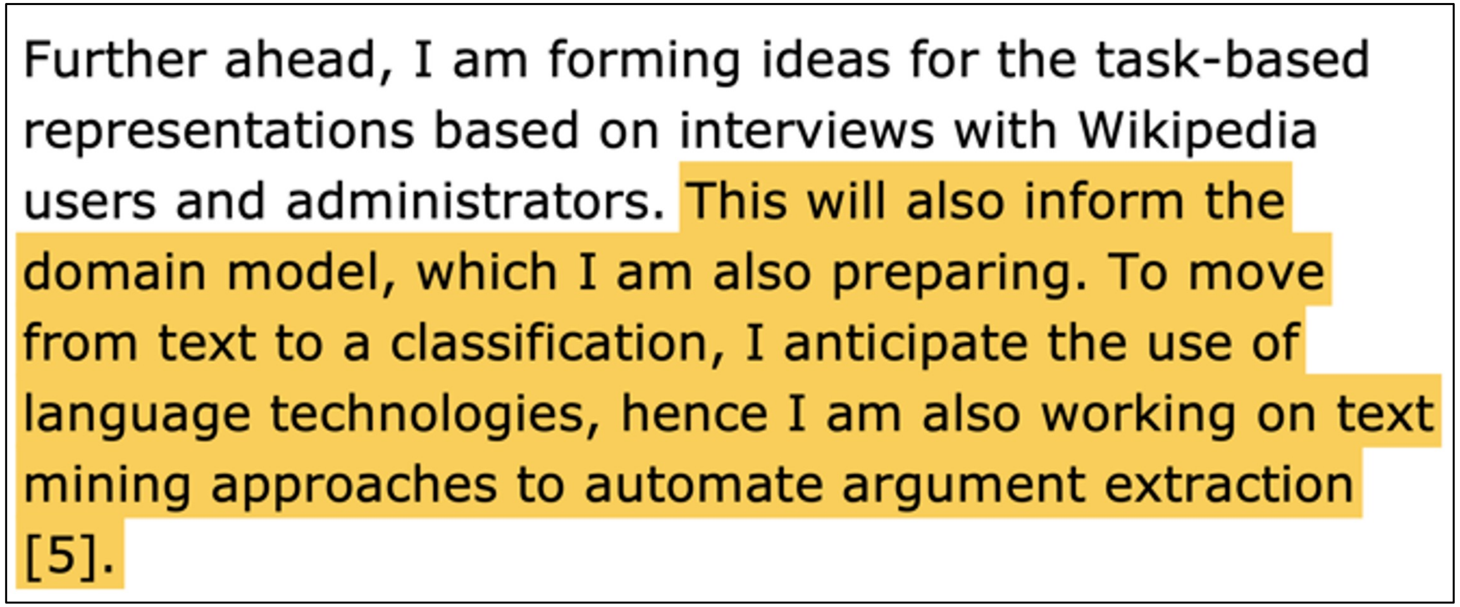
The Acknowledgments section will be extracted from papers to detect funding bias.



Further ahead, I am forming ideas for the task-based representations based on interviews with Wikipedia users and administrators. This will also inform the domain model, which I am also preparing. To move from text to a classification, I anticipate the use of language technologies, hence I am also working on text mining approaches to automate argument extraction [5].

TASK 2: CITATION CONTEXT ANALYSIS

- The highlighted text shows sentences around an in-text citation.
- These sentences will be used for citation context analysis.

CODE GLITCH IN A COMPUTATIONAL CHEMISTRY PROTOCOL PROJECT

287 DOIs were tested on the pipeline to download full text

30% DOIs were downloaded with full text

FUTURE WORK AND CONCLUSION

I will continue to develop the pipeline to implement these applications.

I plan to work on fixing the errors found in the Computational Chemistry Protocol Project

With further requirements analysis, I will investigate and incorporate additional possible applications for analyzing full texts of various scholarly publications.

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My family and friends.

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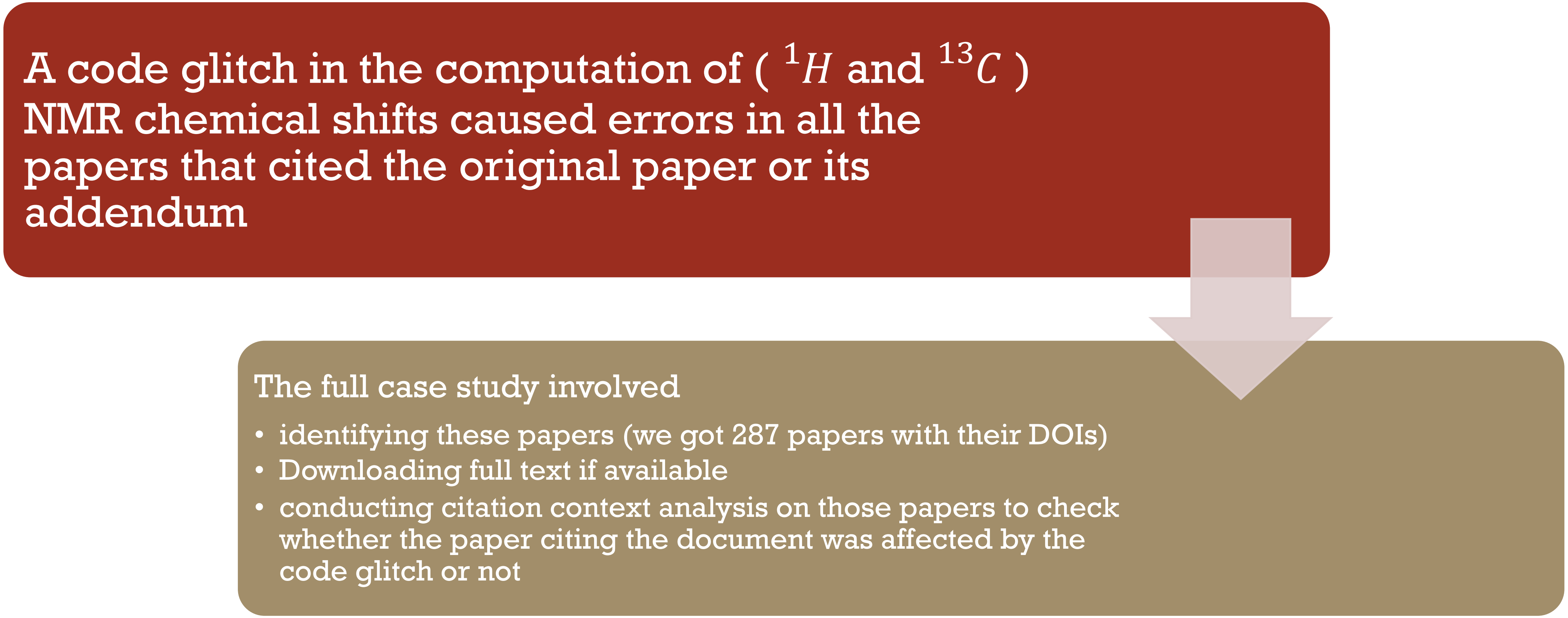

A code glitch in the computation of (^{1}H and ^{13}C) NMR chemical shifts caused errors in all the papers that cited the original paper or its addendum

The full case study involved

- identifying these papers (we got 287 papers with their DOIs)
- Downloading full text if available
- conducting citation context analysis on those papers to check whether the paper citing the document was affected by the code glitch or not

REASONS FOR NOT GETTING FULL TEXT

1

INSTITUTION DOES NOT HAVE ACCESS

2

XML or PDF URLs NOT AVAILABLE/ UNSPECIFIED URLS

3

PUBLISHER NOT GIVING PERMISSION

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