## Interactive visualization of Sentiment Analysis over time

In this thesis, you will develop a Sentiment Analysis module to be used by researchers of the Digital Humanities. Analyzing the sentiment of documents towards a specific topic and/or research question is of great interest to researchers of many disciplines, including social sciences, literary sciences, and cultural sciences. Especially, making the analysis process and their results usable by providing interactive visualizations is important to empower the workflows of non-expert users with state-of-the-art ML models developed by the Natural Language Processing community.

Tasks of this thesis include:

- Evaluate and compare various existing models for (aspect-based) sentiment analysis
- Develop a sentiment analysis backend module
- Develop a sentiment analysis frontend module that offers interactive visualizations
  - For example, build a time-based visualization to show the development of sentiment towards specific topics over the last 10 years.

The D-WISE Tool Suite is a web-based platform for Digital Humanities to perform qualitative data analysis. The sentiment analysis module will be integrated into this tool. Consequently, one focus of this thesis is to develop a user interface with a good user experience for performing sentiment analysis.

Links:

- Sentiment Analysis (described by Computer Scientists): <u>https://paperswithcode.com/task/sentiment-analysis</u>
- Sentiment Analysis (as described by Digital Humanities: <u>https://fortext.net/routinen/methoden/sentimentanalyse</u>
- D-WISE Tool Suite: <u>https://aclanthology.org/2023.acl-demo.31/</u>

Suitable for a Bachelor's thesis, but can be adapted to a Master's Thesis as well.

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