

## Call for Bachelor thesis

### „A survey on approaches for citation recommendation“

#### What is the topic?

Many authors face the challenge to add the optimal references to their scientific publications, such as conference papers. Due to the extremely increasing number of publications (about hundreds of thousand publications in the computer science domain only) and due to the rise of new research fields and new methods, it is more and more difficult and time consuming for authors to have an overview of the literature and to select the best references for their own texts.

Therefore, several approaches have been developed for recommending references for specific positions in the text – which is also called *citation recommendation*. Existing systems so far either use the content of the citing papers and maybe cited papers (content-based filtering), or rely on the fact how other researchers cited other researchers (collaborative filtering).

The task of this Bachelor thesis is to give an overview of existing systems for citation recommendation. For that, an initial list of publications will be provided to the student, so that an in-depth analysis can follow. Existing approaches need to be categorized and assessed by the student with regard to different dimensions, such as the performance and the circumstances, under which the system is applicable. Furthermore, evaluation data sets will be assessed in a similar manner. The outcome of this thesis will be a comprehensive survey on the works of citation recommendation (maybe including paper recommendation).

An initial list of literature and a list of evaluation data sets will be provided to the student.

#### Which prerequisites should you have?

- Interest in the comparison and analysis of algorithms and data sets.
- Knowledge in Machine Learning and/or Information Retrieval a plus.

Keywords: Implementation, Natural Language Processing, Text Mining, Machine Learning, Information Retrieval, Bibliometrics, Recommender Systems.

... by researchers in the field of information retrieval (IR) ....In the popular tf-idf scheme, a basic vocabulary of words is chosen.



Citation Recommendation Tool



... by researchers in the field of information retrieval (IR) (**Baeza-Yates and Ribeiro-Neto, 1999**)....  
In the popular tf-idf scheme (**Salton and McGill, 1983**), a basic vocabulary of words is chosen.

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