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Projekt: Rev-Miners

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Kurzbeschreibung:

The task of **peer-reviewing** is central to the area of scientific publications. But it is a cumbersome process, due to the growing review workload and newer fields.

Argument mining has enabled understanding not only the positions adopted by the people but also the reason **why** they do so. In the domain of the scientific discourse, specifically in peer-reviewing, this can be potentially used to drive the process.
In our work, we defined the objective to design and develop a reviewing expert system that can assist the editors, meta-reviewers, and reviewers. We demonstrated that the decision process in peer-reviewing is **driven by arguments** and automatic argument identification can be used to facilitate the process.

Within the scope of our project, we defined, structured, and annotated our own scientific-reviews dataset and used it to train our model to extract relevant arguments and then make predictions on the acceptability of the paper.
Our machine-learning model achieved near-human performance and showed that arguments are paramount for the publication decision. The process remains interpretable since the extracted arguments can be highlighted in a review without detaching them from their context.

Projektpartner, Ideengeber:

Relational Machine Learning for Argument Validation (ReMLAV) (DFG Projekt), Munich Center for Machine Learning (MCML) (BMBF Projekt), Leibniz Rechenzentrum (Infrastructure)

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