

meinung

Moral und Ethik in Nachrichten und Gesellschaft German for "opinion" – Moral and Ethics in News and Society

Analysing Moral Stances in Text

BACKGROUND

contemporary society daily news is In our disseminated via various media with diverse moral viewpoints. Extracting and standardising moral positions from vast article volumes is a current challenge. We focus on significantly increasing the accuracy of moral content quantification in textual data by considering **semantic contexts**. For this we combine large-language models with the extended Moral Foundation Dictionary (eMFD).

RESEARCH

QUESTIONS

RQ1: How can the use of contextaware methods improve moral measuring of text based on the eMFD?

IMPACT

We extend the eMFD to include arbitrary words and capture semantic differences of the same words, e.g. "love" is different with ice cream than with parents. This enables to assess moral balance in text (e.g. newspaper articles), estimate moral shifts in society over time and thus provides a powerful tool for political and social sciences.

RQ2: Can we quantify changes in moral attitudes of society over time?

METHODS & RESULTS

CONTEXT-AWARENESS & GENERALISABILITY



With the BERT language model we map tokens (i.e. word fragments) to a latent space. BERT already differentiates tokens/words by context. We then reduce noise and complexity by applying a singular value decomposition (SVD). Fitting a linear regression from the reduced vector space to the moral vectors of the words in the eMFD (n=3270) allows us to reuse the models for other regression words (generalisability).

VALIDATION

			authority_p	care_p	fairness_p	Fig. 1. Due disting of us and
icina eMFD	2. Extendina eMFD (Generalisability)	0.200		· · ·		Fig. 1: Predictions of moral

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eMFD Vectors **Our Vectors**

Our have vectors moral statistically similar properties like the eMFD.

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Our model correctly infers from the first half of the eMFD to the second half.



dimensions by the eMFD model (x-axis) and our custom model (y-axis). Point represent the texts from a *500-sample dataset.*

All five dimensions who statistically strong, significant correlations. This highlights the alignment of our model with the eMFD scoring trends.

3. Open-World Validation



Using 10,000 news articles with summaries from the Realnews dataset, our model consistently outperforms the eMFD in predicting the moral tone – especially for shorttexts.



SOURCES

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