

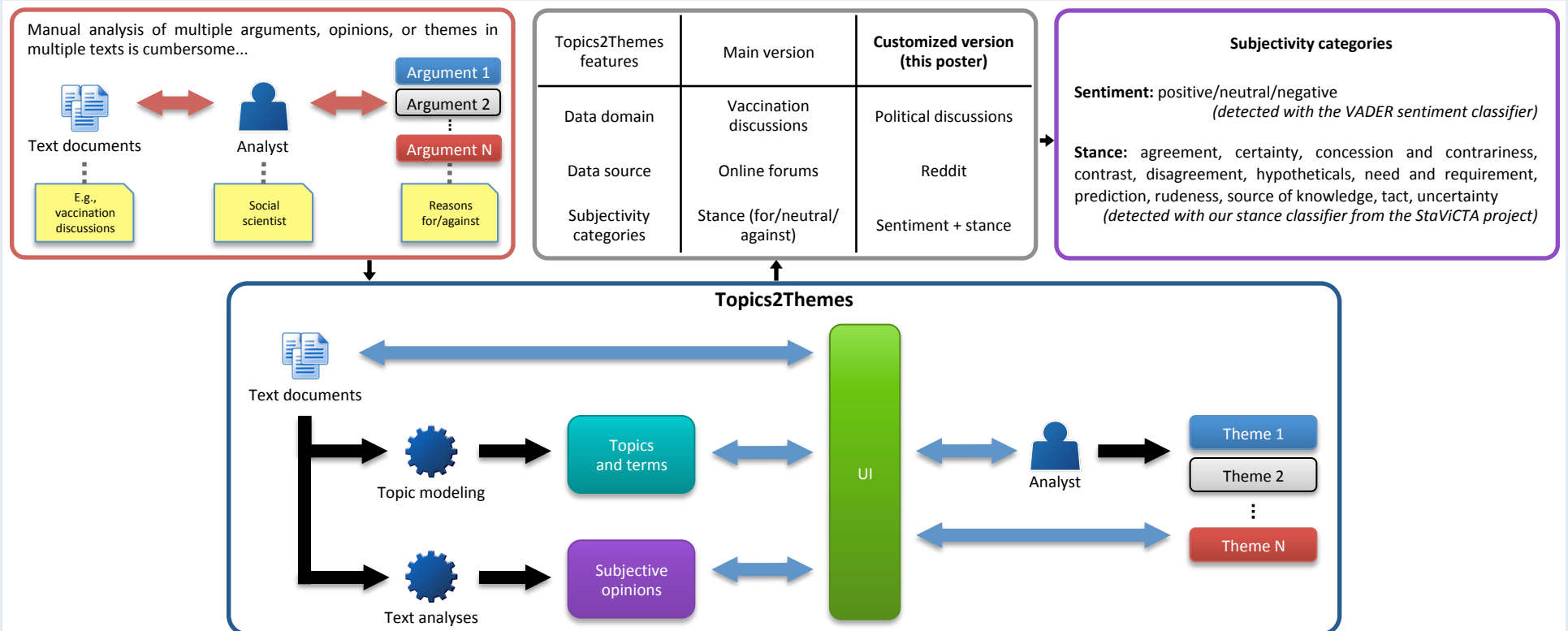
# Application of Interactive Computer-Assisted Argument Extraction to Opinionated Social Media Texts

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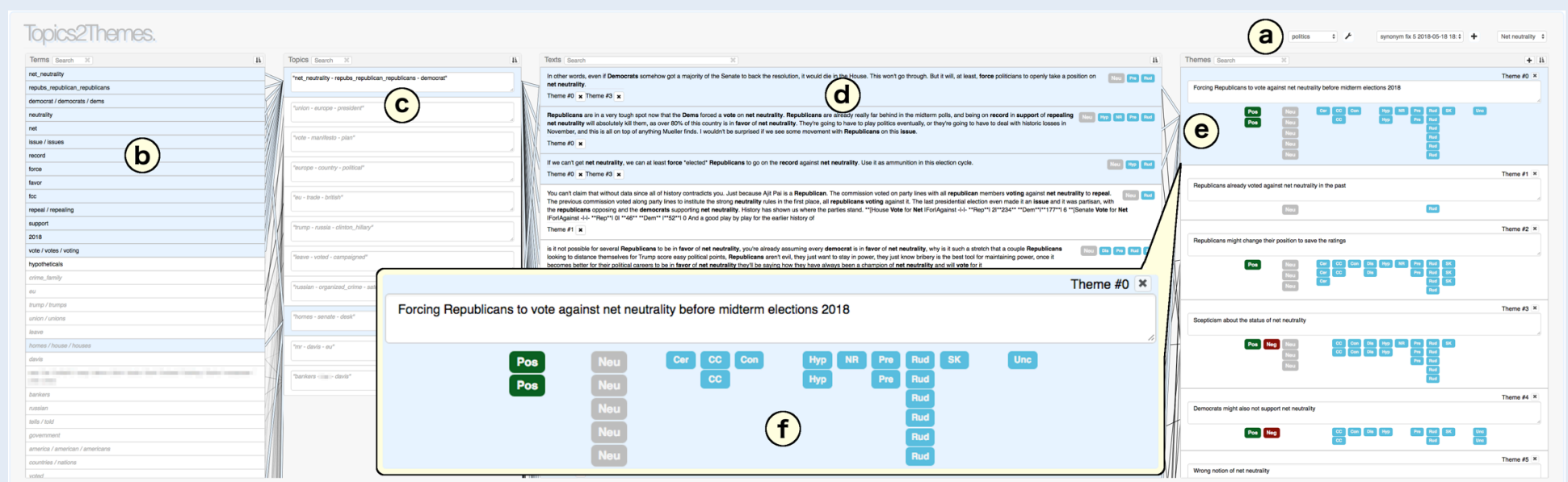
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The analysis of various opinions and arguments in textual data can be facilitated by automatic topic modeling methods; however, the exploration and interpretation of the resulting topics and terms may prove to be difficult to the analysts. Opinions, stances, arguments, topics, terms, and text documents are usually connected with many-to-many relationships for such tasks. Exploratory visual analysis with interactive tools can help the analysts to get an overview of the topics and opinions, identify particularly interesting documents, and describe main themes of various arguments. In our previous work, we introduced an interactive tool called Topics2Themes that was used for topic and theme analysis of vaccination-related discussion texts with a limited set of stance categories. In this poster paper, we describe an application of Topics2Themes to a different genre of data, namely, political comments from Reddit, and multiple sentiment and stance categories detected with automatic classifiers.



The motivation and the overview of the approach used in our tool Topics2Themes as well as the differences between the main version and the current customized version.



The screenshot of Topics2Themes customized for multiple sentiment & stance categories discovered in political comments from Reddit: (a) data loading controls; (b) list of topic terms; (c) list of topics (the first one is selected); (d) list of documents (displaying detected sentiments & stances and associated themes); (e) list of user-defined themes (displaying sentiments & stances for all associated documents); and (f) zoomed-in cutout of the first theme in (e). The user hovered over the theme in (e), which affected highlighting of elements and links in other lists (in blue color).

Here, we applied the tool to a data set of about 200 political comments from Reddit created during spring 2018. Using the frontend of Topics2Themes, we were able to select an interesting topic on Internet neutrality among the output of the NMF topic modeling algorithm. By reading the related documents and identifying the recurring themes, we established the main arguments in the ongoing discussion about the upcoming U.S. Senate vote on Internet neutrality, which eventually took place in May 2018.

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