Web Application for Extracting and Analyzing Social Graphs from Text

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Since ancient times, humans have shared information with each other through written text. For this reason, analyzing textual data is an important task in many fields, such as literature, journalism, and history.

Our project is a web application that analyzes text by building a social graph from it. In particular, the vertices of this graph represent people, organizations, countries, and other entities that are present in the text, while two vertices are connected by an edge if the corresponding entities co-occur within the same text unit (for example, in the same sentence or paragraph). In addition, the constructed graph is analyzed in order to study its structural properties, find closely connected groups, or vertices with the most connections.

This approach to analyze textual data has a wide range of applications. For example, we can study the relationships between characters in literary works [1], discover connections between historical and political figures based on various sources or news articles [2], [3].

The web application is built with Flask and React.js technologies and uses Natural Language Processing models. Users can upload the desired text and interactively view the resulting graph. In addition, it is possible to make changes by adding and deleting nodes, or merging two of them together. The final graph can be saved in various formats.

References

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