

Spatiotemporal Knowledge Base as a Data Source for Sketch Map Visualization

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Abstract

The volume of freely available unstructured natural-language texts resulting from everyday human communication is growing rapidly on the Internet. These include various short messages from social networks, descriptions of vacation trips, etc. Many of these texts contain spatial or spatiotemporal data. These can be extracted from the texts and stored, for example, in various knowledge bases. Today, spatial data extraction primarily involves recognizing named entities and their geolocation. When using a special type of unstructured text, so-called narratives - spatially coherent descriptions of the movement of an agent in space, it is possible to obtain spatial data representing not only the positions of the mentioned entities, but also their topology and spatial arrangement. In our research, we deal with the entire chain of narrative processing, linguistic analysis, enabling the search for spatial data, starting with, through completing missing spatial data in sentences, integrating narratives, extracting spatial data, and creating knowledge, up to the visualization of the obtained spatial data in the form of sketch maps.

Keywords: narrativ, spatiotemporal knowledge base, transparent Intensional logic