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An Integration of Big Data and Census data for Spatial Analysis

Author : Shuming Bao (University of Michigan)

Abstract

The emergence of big data in recent years brings new opportunities for spatial studies with more diverse and extensive data sources. While the census data can provide important baseline information for population and business that are collected following well defined standards and design, they may be outdated with limited categories. The big data, including web data and social media data, may provide complimentary information to baseline data such as census data. This paper will propose an online geoportal for an integrated analysis of census data and big data. With the spatial tool presented here, the big data can be collected from different search engines such as Google, Yahoo, Bing, and Baidu as well as some social media sources. The generated attributes can then be integrated with the census data for visualization and spatial analysis. The case study shows how we can convert non-structural data into structural data, create spatial data from non-spatial data, and retrieve numeric data from text data.