Wikipedia as a Resource for Text Analysis and Retrieval

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1 Tutorial Description

As a counterpart to expert-created knowledge resources such as WordNet or Cyc, non-expert users may collaboratively create large resources of unstructured or semi-structured knowledge, a leading representative of which is Wikipedia. Collectively, articles within Wikipedia form an easily-editable collection, reflecting an ever-growing number of topics of interest to Web users.

This tutorial examines the characteristics of Wikipedia relative to other human-curated resources of knowledge; and the role of Wikipedia and resources derived from it in text analysis and in enhancing information retrieval. Applicable text analysis tasks include coreference resolution (Ratinov and Roth, 2012), word sense and entity disambiguation (Ganea and Hofmann, 2017). More prominently, they include information extraction (Zhu et al., 2019). In information retrieval, a better understanding of the structure and meaning of queries (Hu et al., 2009; Pantel and Fuxman, 2011; Tan et al., 2017) helps in matching queries against documents (Ensan and Bagheri, 2017), clustering search results (Scaiella et al., 2012), answer (Chen et al., 2017) and entity retrieval (Ma et al., 2018) and retrieving knowledge panels for queries asking about popular entities.

2 Outline

1. Human-curated resources
   (a) Expert resources
   (b) Collaborative, non-expert resources
   (c) Hybrid resources
2. Knowledge within Wikipedia
   (a) Articles, infoboxes, links, categories
   (b) Resources derived from Wikipedia
3. Role in text analysis
   (a) Information extraction
   (b) Beyond information extraction
4. Role in information retrieval
   (a) Query and document analysis
   (b) Retrieval and ranking

A copy will be at http://tinyurl.com/acl19wi.

3 Presenter

Marius Pašca is a research scientist at Google in Mountain View, California. He graduated with a Ph.D. in Computer Science from Southern Methodist University in Dallas, Texas and an M.Sc. in Computer Science from Joseph Fourier University in Grenoble, France. Current research interests include factual information extraction from unstructured text and natural-language matching functions for information retrieval.

References