WE1S "topic_bubbles" module

Included in the WE1S Workspace (see S-2), the "topic_bubbles" module contains a Jupyter notebook for creating a TopicBubbles visualization. Created for WE1S by Sihwa Park (Ph.D student in the Media Arts & Technology Program at UC Santa Barbara), TopicBubbles is a visualization tool in WE1S's Topic Model Observatory for exploring topic models.[1]

TopicBubbles is a general-purpose topic model visualization interface that is useful for getting an overview of a model, looking closely at topics, comparing topics, and looking at words associated with topics. Among general-purpose interfaces for topic models, it stands out especially for facilitating the comparison of topics.

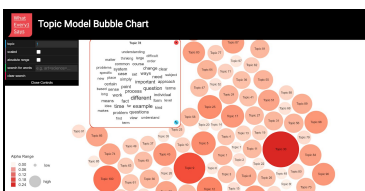Principal visualizations in TopicBubbles include the following (click for larger images):

Default view
Topics represented as circles, where the size and color intensity indicate relative weight.
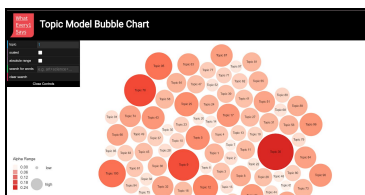
Top words in topic
Clicking on a topic opens a panel showing a word cloud.

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[1] A user must have previously created a topic model for a project in the WE1S Workspace using the "topic_modeling" module (see S-13). For a general explanation of topic models, see M-2.
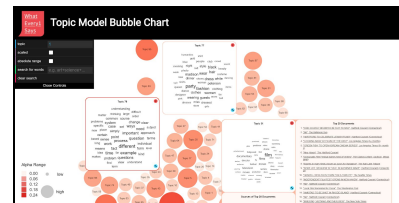
Other information panels
A button in the top-words panel opens other panels. One shows titles and sources of the top 20 documents associated with a topic. Another graphs the weight in the model of the publication sources of the top documents. Clicking on a document opens it for reading (or for WE1S's own models shows term frequencies and other derived data because the original documents are under copyright).
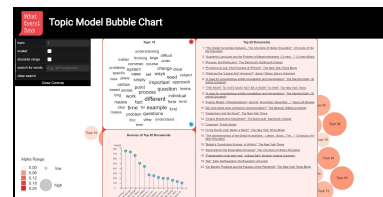
Comparing multiple topics
One of the most useful features of TopicBubbles is that one can click on multiple topics to compare their top words, documents, and sources simultaneously.

WE1S's chapter on TopicBubbles in its *Topic Model Observatory Guide* provides goal-directed instructions for using TopicBubbles.

Further information:

* Video demo of TopicBubbles
* Sihwa Park, TopicBubbles GitHub site
* WE1S *Topic Model Observatory Guide*: TopicBubbles

Live example for a WE1S topic model: C-1.50 (50 topics)

Jupyter notebook in this module:

* `create_topic_bubbles.ipynb`

WE1S module code source: [TBD] (MIT License)