INTRODUCTION
We propose a latent Dirichlet allocation (LDA)-based visual exploration method for dynamic graphs. With the LDA-based analysis, we can reveal hidden structures in the dynamic graph based on the extracted semantic topics. To gain a deeper understanding of the derived structures and their evolution, we design a visual analytics system with an analytical pipeline enabling users to explore the dynamic graph. A new visual interface supports users to interactively explore and interpret the LDA results based on the salience in the derived structures.

PIPEDLINE

Preprocessing

Topic Extraction

Visual Exploration

Preprocessing: The raw dynamic graphs data are preprocessed to be the input matrix of LDA.

Topic Extraction: With the input of the document word matrix, the LDA would output two parts of results — the document–topic distribution and topic–word distribution.

Visual Exploration: Visual system supports users to iteratively explore the LDA results from overview to details within a visual analytics loop.

CO-AUTHOR NETWORK EXPLORATION

Papers published in IEEE VIS from 1990 to 2015. Nodes (4813) are authors; links (14033) are cooperations.