Topical search in the Twitter Online Social Network

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Motivation & Objectives

- Twitter increasingly used to get current topical information
- Search for topical experts
- Search for current, popular content on specific topics
- Pre-requisite: identify topical attributes of users

Inferring topical attributes: Utilize Twitter Lists

- Significance of Lists
  - Include many topical experts
  - List names / descriptions provide semantic cues to members’ topics of expertise

- Inferring topical attributes of user U
  - Collate List names, descriptions into a user-document
  - Use IR techniques on user-document to identify topics
  - Topics: nouns and adjectives, unigrams and bigrams

User-accounts & Top tags extracted from List meta-data

- celebs, actors, famous, movies, stars, comedy, funny, music, hollywood, pop culture
- yoga, health, fitness, wellness, magazines, media, mind, meditation, body, inspiration
- politics, senator, congress, government, republicans, iowa, gop, officials, conservative, house
- social media, network analysis, staphys, professor, umich, csresearch, umsi, thinker

Search-system for topical experts: Cognos

- Given a topic (query), identify candidate experts using topics inferred from Lists
- Relevance: cover density ranking (user-document, query)
- Popularity: number of Lists which includes the expert

Search-system for topical content

- Given a topic, identify popular and current relevant content
- Challenges: relevance, popularity, trustworthiness, scalability
- Our hypothesis: If multiple topical experts tweet about a news, it is most likely popular and relevant to the topic
- Top 10 results for 20 topics evaluated through AMT
- 80% tweets judged relevant by majority judgment
- Sources of non-relevant results
  - Scarcity of very recent content on niche topics
  - Global events such as Hurricane Sandy

System: twitter-app.mpi-sws.org/what-is-happening/

Future Directions

- Potential applications
  - Inferring topics of interest
  - Personalized recommendation

Contact

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