Opinion Retrieval in Twitter

Zhunchen Luo (zhunchenluo@nudt.edu.cn)

Miles Osborne (miles@inf.ed.ac.uk)

Ting Wang (tingwang@nudt.edu.cn)

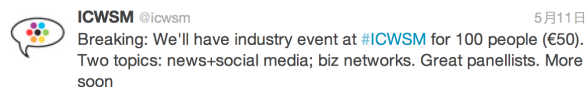## Introduction

- We consider the problem of finding opinionated tweets about a given topic

  E.g., Given a query: ICWSM

  Relevant tweet:

  ICWSM @icwsm   3月22日
  We had some pretty imaginative paper titles in @ICWSM-12 - what was your favourite? bit.ly/GGvkgJ "OMG, I Have to Tweet That!"

  Irrelevant tweet:

  ICWSM @icwsm   5月11日
  Breaking: We'll have industry event at #ICWSM for 100 people (€50). Two topics: news+social media; biz networks. Great panellists. More soon

- We automatically construct opinionated lexica from sets of tweets matching specific patterns indicative of opinionated messages

- We use a machine learning approach to learn a ranking function for tweets that uses the available social features and the opinionated feature

- Dataset: 50 queries and 5000 judged tweets

Opinionated Tweets

- "Pseudo" Subjective Tweet (PST): a tweet of the form "RT @username" with text before the retweet

  E.g.,

  Amber Lyon @AmberLyon   4时
  Tragically not much has changed **RT** :"@SAlwadaei: **BBC** report on #Bahrain from 90s. History repeating itself. youtube.com/watch?v=tApsza…"

- *"Pseudo" Objective Tweet (POT): If a tweet satisfies two criteria: (1) it contains links and (2) the user of this tweet posted many tweets before and has many followers*

  E.g.,

  BBC Breaking News @BBCBreaking   5月14日
  Minimum price of alcohol in Scotland proposed at 50p per unit - Scottish Health Secretary Nicola Sturgeon bbc.in/Kkcyv0

- A term can be measured how dependent with PST set and POT set

Examples of Opinion Terms

Topic Independent	Sub	i, lol, .., :), *, u, my, :d, me, morn
	Obj	new, via, ..., video, tip, social, 2011
Breaking Dawn	Sub	i, go, me, lol, !!!, excit, im, :), so, too
	Obj	video, premier, kristen, robert
UK Strike	Sub	i, you, my, lol, :(, u, me, so, !!, good
	Obj	follow, fridai, week, bbc, #ows, #jobs

Features

- BM25: the Okapi BM25 score

- Mention: whether the tweet contains "@username"

- URL: whether the tweet contains a link

- Statuses: the number of tweets the author has ever written

- Followers: the number of followers

- Opinionatedness: the opinionatedness score of a tweet

Experiment

	MAP		MAP
BM25	0.2509	BM25+Followers	0.2532
BM25+Mention	0.2814	BM25+Opinionatedness	0.3667
BM25+URL	0.3380	Best (all features)	0.4020
BM25+Statuses	0.2726		

Conclusion

- Using the social and opinionatedness information of tweets can help opinion retrieval in Twitter

- Our Dataset URL: http://sourceforge.net/projects/ortwitter/