

Towards Credibility Measures for Micro-blogs: Characterising Witness Accounts

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Abstract:

This research explores whether potential witness accounts of an event can be differentiated from those which are not in the *Twittersphere*. The primary motivation is to make contributions towards credibility measures for opportunistically harvested content from Social Networks. Models defining witness accounts are developed and tested via a case study: a bushfire event on the outskirts of Melbourne. In-depth manual analysis of the collected corpus reveals a range of characteristics associated with witness accounts. Findings to-date suggest implications for the reliance on place names in Twitter content to identify the most relevant information to a particular event.

Introduction

- With in excess of 400 million tweets daily¹, identifying relevant and credible information from Twitter is challenging.
- Witnesses are essential in journalism to lend credibility to breaking news stories and fundamental to the criminal justice system.
- Existing research contributes to identifying the locations of users or events in Twitter content, this research explores inferring the spatial relationship between a user and a event, a prerequisite for witnesses.

Methodology

- Twitter data related to a real-world event, a bushfire on the northern outskirts of Melbourne, was collected.
- Pre-processing to identify on-topic, original, and individual tweets.
- In-depth manual content analysis to test models.

<https://blog.twitter.com/2013/celebrating-twitter7>

Model

- A prerequisite of potential witness accounts is the content infers the user is 'on-the-ground'.
- Content topics explored to infer potential witnesses include:
 - By direct observation of an event effect e.g. '*...smell smoke...*'
 - By actions users have or intend to take due to event effects e.g. '*...just evacuated...*'

Results

Preliminary results indicate:

- The primary characteristic differentiating witness accounts are direct observation of effect 65%, dominated by seeing smoke.
- Potential witness accounts contain less spatial descriptions that include place names, 45% versus 71%.
- Potential witness accounts are differentiated by often including personalised general place categories such as '*... my home...*'.