1. Overview

- Over 11% of all tweets posted in Twitter are deleted
- Is tweet deletion equally prevalent among all Twitter users?
- Do tweets, that are deleted later, have distinctive properties?
- Study of 200 thousand Twitter users, over a period of four weeks
- Personality based characterization of user differences
- Function word usage based characterization of tweet differences

2. Motivation & Challenges

- Understanding deletion is fundamental for privacy aware systems
- Deletion is a personal choice and depends heavily on user
- Difficult for third party to understand why a tweet was deleted
- Lack of tweet editing feature major cause of superficial deletions
- Careful user selection to avoid spammers and bot accounts
- Extensive data cleanup to remove automated tweets and retweets

3. Characterizing User Differences

- Earlier works have shown strong and significant correlations between social characteristics [1] and linguistic style [2] with a user’s personality
- We utilized the above reported strong and significant correlations to predict user personality
- **Deleters**: 92 thousand users, who had made at least one non-superficial tweet deletion
- **Non-Deleters**: 102 thousand users, for whom all deletions (if any) were classified as superficial deletions

4. Characterizing Tweet Differences

- We used LIWC toolkit to analyze different function word usage in deleted and non-deleted tweets from deleters
- Dataset had 1.2 million tweets that were deleted, and 15.9 million non-deleted tweets

5. Key Insights

- To delete one’s posted tweet is a very personal decision, and depends on the author’s personality and writing style.
- Signals about an author’s personality can be obtained from her deletion practices, even if number of deletions are low.
- Deleted tweets have distinctive features, although it is difficult for a third party to understand the reasons behind their deletion.
- Understanding post deletion is important for any privacy aware system that attempts to help its users not leak information.

6. References


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Some graphics were adapted from freepik.com