Utilizing Hashtag in Opinion Mining and Sentiment Analysis for Customers Survey
Abu Awal Md Shoeb and Hafiz Imtiaz
Rutgers University

Motivation

- Customer opinion is useful for all companies
- Customers typically not interested in traditional surveys/feedbacks
- Can there be a unified opinion collection framework?
- Opinion mining from all social networks - using hashtags

Definitions

- Hashtag - word or phrase preceded by a pound sign (#) followed by a keyword
- Go viral - internet content that spreads rapidly through a population by being frequently shared in social media
- "like", "share", "retweet" - means of spreading one's opinion in social media

For Who

- Customers/stakeholders (hotel, restaurant, tourist place)
- Owners (additional review platform not required, less chance to miss a comment like Facebook post)

Proposed Framework/Architecture

- Fetch data from various sources (Facebook, Instagram, Twitter)
- Categorize them into text, photo, symbols, and hashtag
- Store them in our DB utilizing hashtag
- Apply existing mining techniques by adding weights from additional features (number of likes, tweets, share, comments)

Basic Structure

![Diagram of opinion mining and sentiment analysis framework]

Examples

- #MidAtlanticStudentColloquium
  - People can use our predefined syntax like #CheeseCakeFactory or #HotelMarriot
  - Other tags can be fetched as well like #Restaurant, #CheesecakeFactory

Example: I really liked the #CheeseCakeFactory.
- We process the comments (good or bad) then give a rank (e.g. 4/5)
- Store this comments under CheeseCakeFactory

Conclusion and Future Works

- We proposed a framework for opinion mining from social media
- It can be used to replace survey/feedback systems used by companies
- The framework can also be extended and used for recommendation system
- Formulate the problem as matrix completion problem
- The recommendation system will preserve privacy - differential privacy

References