Studying Confirmation Bias in Hashtag Usage on Twitter

• Problem
  • Confirmation bias and filter bubble effects are a problem in social platforms such as Twitter
  • The heavy reuse of hashtags that are popular in the own Twitter network can foster these effects

• Method
  • We study confirmation bias in Twitter by treating the reuse of hashtags as a proxy for it

| Dataset     | $|U_s|$ | $|U|$  | $|T|$   | $|HT|$   | $|HTAS|$  |
|-------------|-----|------|-------|--------|---------|--------|
| CompSci     | 2,551 | 91,776 | 5,649,359 | 1,081,403 | 9,161,842 |
| Random      | 3,466 | 127,112 | 8,157,702 | 1,507,773 | 13,628,750 |
Result 1: Hashtag Reuse Types

• How are people reusing hashtags in Twitter?

• 66% and 81% of hashtag assignments can be explained by individual or social hashtag reuse
Result 2: Temporal Effects on Hashtag Reuse

- Do temporal effects have an influence on individual and social hashtag reuse?

- People tend to reuse hashtags that were used very recently by their own or by their followees.
Result 3: Hashtag Reuse Prediction

- Can we predict/recommend hashtags by modeling reuse and temporal effects?

- What can be done to overcome it?
  
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