

Breaking out of the echo chamber

Research suggests an echo chamber phenomenon exists on social media platforms, particularly in the domain of online political discourse. Within these online echo chambers, messages are shared and relayed among likeminded individuals, while external sources of potentially divergent information are drowned out.

The broader goal of the research program is to further our knowledge about echo chamber effects by examining the exceptions. The FYAP project specifically focused on addressing the following question: How do we identify for analysis which outlets and what messages shared on social media appear to be exceptions to the observed norms produced by echo chamber effects?

Summary and results

Data was collected from Twitter using the hashtag #shutdown (related to the 2013 U.S. government shutdown) as the selection criteria.

- 266k tweets retrieved.
- Tweets by 8715 politically-identifiable profiles selected.
- 8522 tweets from selected profiles contained a URL.

Figs. 1 & 2, echo chambers.

Links to certain outlets (determined by root domain) are posted more-frequently among by Twitter users who are identifiable as liberal, democrat, “left-leaning” (blue) or conservative, republican “right-leaning” (red) Twitter users.

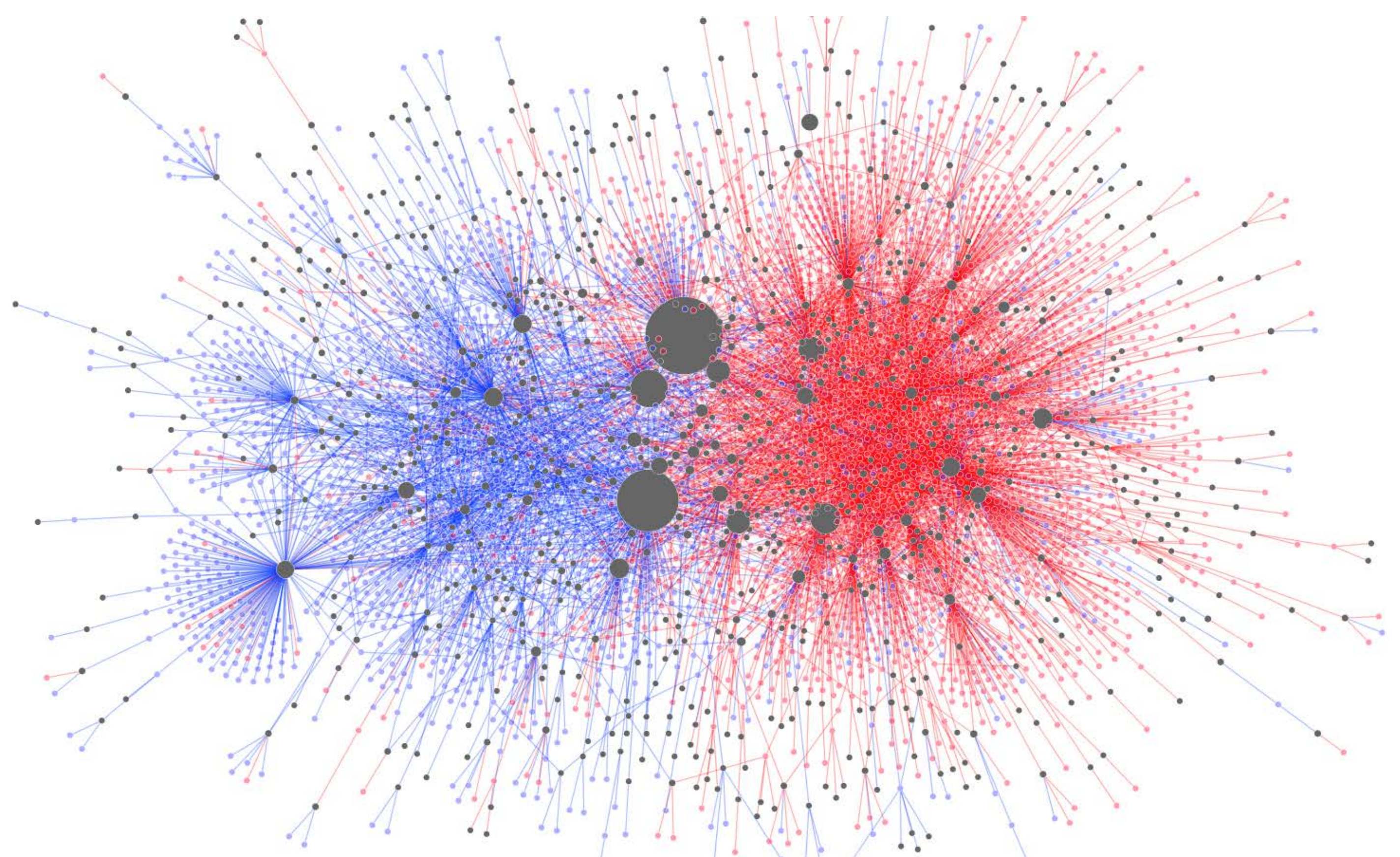
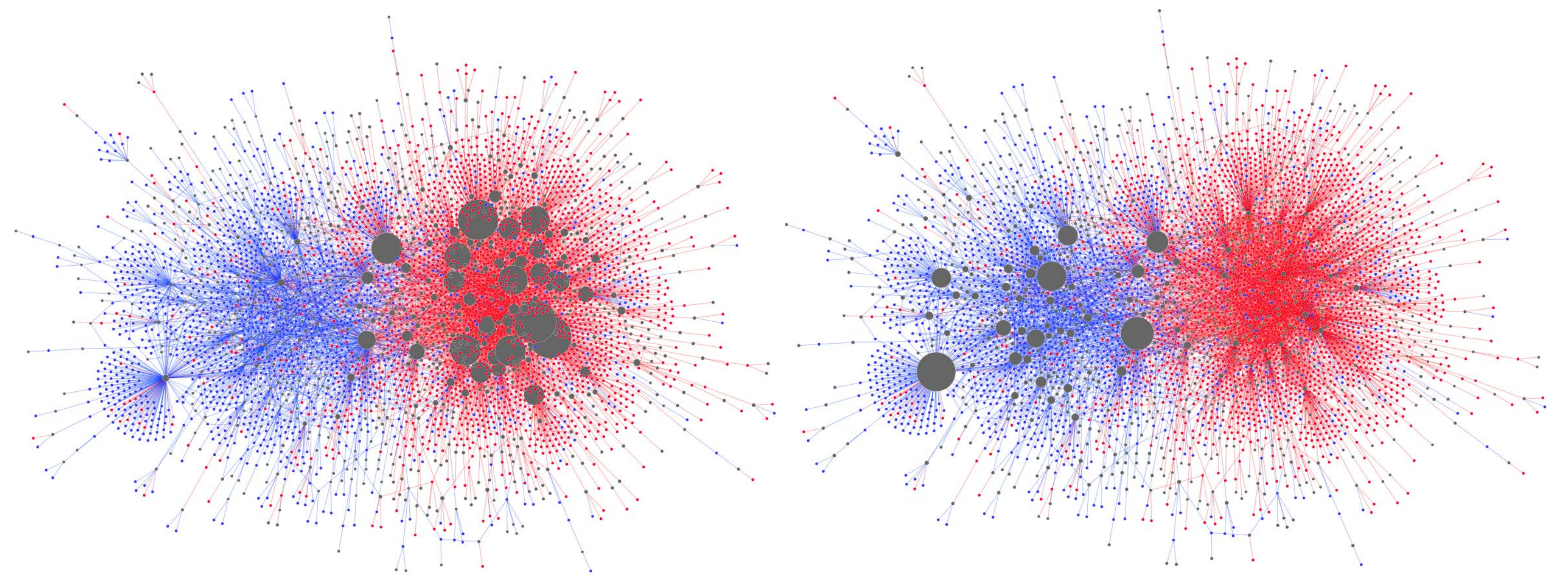
Fig. 3, “cross-chamber” linking.

Links to certain outlets are posted by both “red” and “blue” Twitter users. These posts may represent “cross-chamber” linking, but requires qualitative analysis of the context of the link to make inferences about the Twitter user’s intent in posting the link.

Future work

Examining the occasions when Twitter users “cross the echo chamber” calls for a mixed-repeatable methods design combining mining Twitter data for network analysis (the focus and results FYAP project) and a Discourse Analysis process to be conducted in Fall 2015 with Undergrad research assistant.

Future work will integrate data mining and qualitative analysis. Expected results will inform our understanding of echo chamber effects in social media by describing cases in which users break out of their common discursive behavioral patterns.



Blue and red nodes represent Twitter accounts of respective political leanings. Grey nodes represent Web domains. Graph layout and metric calculation performed in Cytoscape software. Node size represents in-degree of each domain among “blue” Twitter users (fig 1) and “red” users (fig 2). Node size (fig 3) calculated by the following:

$$indegree(fullgraph) - |indegree(blue) - indegree(red)|$$

Domains to which links are most frequently posted between both “blue” and “red” Twitter users shown in Fig. 3 are (1) youtube.com, (2) washingtonpost.com (3) politico.com (4) foxnews.com (5) facebook.com (6) usatoday.com (7) thehill.com (8) instagram.com (9) slate.com (10) washingtontimes.com (11) huffingtonpost.com (12) nytimes.com (13) upworthy.com (14) twitter.com (15) shutdowncost.com.

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