Cognitive Science
UC San Diego

Michael Haupt's Dissertation Defense

Infectious Ideas: Investigating Information Contagion Effects Associated with Dispositional Traits of Social Media Users and Textual Features of Posts

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11:45 AM - 01:45 PM
Design & Innovation Building (DIB), Room 306
or
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Abstract

Information has always been contagious. Rumors, gossip, advice, knowledge, and wisdom have reliably spread between people via mediums such as radio waves, the written word, and in-person conversations among others. However, the scale of information contagion has expanded to a global scale with the proliferation of wireless communication technologies. While increased accessibility to information can produce mass societal benefits, these technologies can also facilitate the spread of conspiracies and misinformation, which has been an ongoing issue on social media platforms over the past decade. Previous work has adapted epidemiological approaches for modeling information contagion, where information is conceptualized as a biological pathogen. Despite the utility of the disease metaphor, information contagion differs in that the successful transmission of a message relies on cognitive processes of the receiver. These processes can involve a person's capability and willingness to evaluate a post, emotional reaction to the topic content, and perceived credibility of the message sender. The current work will examine mechanisms for information contagion by assessing how factors related to cognitive effort, emotional affect, and social conformity influence social media engagement on the level of users (i.e., dispositional traits) and posts (i.e., textual features). The first chapter tests how dispositional traits of users such as tendency for reflective thinking, narcissism, and political orientation influence the likelihood to propagate health-related information in a newsfeed simulation exercise. The next chapter explores how properties of social media posts, specifically textual characteristics reflecting linguistic complexity, emotional affect, and use of social references influence contagion effects on the platforms Reddit and X (formerly 'Twitter'). The final chapter adapts graph theory to construct semantic networks of message content to characterize differences in associations between topics (e.g., "Trump," "health") across political, scientific, and conspiratorial discourses on Reddit. The use of influential words in posts, as measured using network centrality metrics, are also shown to be statistically significant predictors of upvoting and commenting. This work assesses how both dispositional traits of users and textual properties of posts influence information contagion, and showcases how semantic network analysis can be adapted to identify influential words that are more likely to evoke engagement.

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