

# MU researchers develop more accurate Twitter analysis tools

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Goggins and Graves developed a software program and method that will help Twitter analysts gain better insight into human behavior associated with trends and events. Credit: MU News Bureau

"Trending" topics on the social media platform Twitter show the quantity of tweets associated with a specific event. However, trends only show the highest volume keywords and hashtags, and may not give qualitative information about the tweets themselves. Now, using data associated with the Super Bowl and World Series, researchers at the

University of Missouri have developed and validated a software program that analyzes event-based tweets and measures the context of tweets rather than just the quantity. The program will help Twitter analysts gain better insight into human behavior associated with trends and events.

"Trends on Twitter are almost always associated with hashtags, which only gives you part of the story," said Sean Goggins, assistant professor in the School of Information Science and Learning Technologies at MU. "When analyzing [tweets](#) that are connected to an action or event, looking for specific [words](#) at the beginning of the tweets gives us a better indication of what is occurring, rather than only looking at hashtags."

Goggins partnered with Ian Graves, a doctoral student in the Computer Science and IT Department at the College of Engineering at MU. Graves developed software that analyzes tweets based on the words found within the tweets. By programming a "bag of words," or tags they felt would be associated with the Super Bowl and World Series, the software analyzed the words and their placement within the 140 character tweets.

"The software is able to detect more nuanced occurrences within the tweet, like action happening on the baseball field in between batters at the plate or plays in the game," Graves said. "The program uses a computational approach to seek out not only a spike in hashtags or words, but also what's really happening on a micro level. By looking for low-volume, localized tweets, we gleaned intelligence that stood apart from the clutter and noise associated with tweets related to the World Series."

Goggins feels using this method to analyze tweets on a local level can help officials involved with community safety or disaster relief to investigate the causes of major events like the Boston bombing or to help predict future events.

"Most of the things that happen on Twitter are not related to specific events in the world," Goggins said. "If analysts are just looking at the volume of tweets, they're not getting the insight they need about what's truly happening or the whole picture. By focusing on the words within the tweet, we have the potential to find a truer signal inside of a very noisy environment."

[The study](#), "Sifting signal from noise: a new perspective on the meaning of tweets about the 'big game,'" was published in the journal, *New Media and Strategy*, and was funded by a grant from the National Science Foundation. Nora McDonald, a graduate student at Drexel University also contributed to the study.

Provided by University of Missouri-Columbia

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