9^{th} International Conference on Computational Social Science IC^2S^2
July 17-20, 2023, Copenhagen, Denmark

Identifying Search Directives on Social Media

Keywords: search queries, search engines, social media, indirect influence, cross-platform

Extended Abstract

This study provides a framework for identifying *search directives*: text or media that could cause a viewer to conduct an online search. Search directives are best described as a form of *indirect online influence* (Figure 1a), because instead of guiding people directly to specific content, they guide people to it through an independent intermediary, such as a web search engine, which provides the searcher with a sense of control over the results they find. As such, search directives have the potential to not only lead people to incorrect, misleading, or hyper-partisan information, but also have the persuasive advantage of making people feel as if they discovered that information on their own [1]. In this paper we, (1) develop a framework for identifying search directives on social media, (2) describe an annotated dataset of examples (e.g. Figure 1b) that we built using an exploratory, iterative, and bottom-up approach, and (3) present three case studies that highlight topical clusters and varied intermediaries among recent search directives we found on Gab, Gettr, Twitter, and Parler.

Motivation Although search engines are widely used and trusted as a source of news [2, 3], *data voids* consisting of low quality results have been shown to occur when the available results for a given search query are limited, volatile, or strategically manipulated [4]. People can be guided into such data voids in a number of ways, including strategically repeated *sound bites* in the media [5], encouragement to "do your own research" [1], or through *source hacking*, "a versatile set of techniques for feeding false information to journalists, investigators, and the general public" [6]. Most relevant here are the concepts of *strategic new terms* [4], *viral sloganeering* [6], and *keyword signaling* [1], all of which describe deliberate attempts to create or amplify short and searchable phrases. While these concepts shed light on how data voids are strategically created and amplified, search directives more broadly describe the measurable artifacts of attempts to direct people to content through an independent online intermediary.

Definition and Dataset We define search directives as text and media (e.g. images, gifs, and videos) that could prompt an online search. In linguistics terms, a search directive can be described as an *illocutionary act* ("the act performed in making an utterance" [7]), and can similarly be expressed in many ways while still retaining its intended impact. To find search directives on social media, we used an exploratory and iterative approach that we initiated by searching for recent posts that contained the word "search" in their main text. We then classified each of these posts, assigned it preliminary subtype (e.g. suggested or mentioned), and documented a number of contextual features, such as whether or not the post contained an image or video. Based on the patterns we observed in this initial set, and to increase our true positive rate, we modified our query to include punctuation (e.g. "search:"), minor intent modifiers (e.g. "search for"), or search engine names (e.g. "Google"). In total, we collected 1.5K posts from Gab, Gettr, Twitter, and Parler through combination of manual searches on the platforms' interfaces, official APIs, and non-official APIs (e.g. `smat-app.com`). For a randomly sampled subset of 500 posts containing the word "search" on Gab, we obtained classifications from two individuals and found that they agreed on 90% of the posts.

Using examples we collected, we identified four types of search directives that can be differentiated as cases where an online search is *linked, suggested, modeled, or mentioned*. These types are not mutually exclusive because multiple can occur in a single post, but are rank-ordered by how they explicitly they prompt an online search. The most explicit are *linked* search directives, which include a link that leads to a page of search results (e.g. `google.com/search?q=vaccine+harms`). Next are *suggested* search directives, which tell viewers to conduct a search and may provide a query, but do not provide a link. In contrast, *modeled* search directives tell readers about a search that they conducted, but don't actually tell readers to conduct it themselves. Last, *mentioned* search directives are the least explicit and most broadly applicable category, and simply indicate that a online search is mentioned in the post.

Case Studies The three case studies we present focus on Ivermectin, the COVID-19 vaccine, and, on a lighter note, a more humorous usage of search directives. These case studies show how website-specific search engines can serve as the independent online intermediary, such as with search directives about Ivermectin which suggest viewers conduct a search on the NIH website (e.g. *"Wanna know what the government hates ivermectin? ... Head over to http://nih.gov amd in the search bar type "ivermectin cancer.""*). The second case study also shows how identifying search directives can provide early detection of conspiracies, as we found a number of posts from 2021 that directed people to search for the terms "died suddenly" (e.g. *"Saying it again, Google 'died suddenly' or 'died after a short illness' and look at the news stories."*), and in November 2022, a anti-vaccine documentary titled "Died Suddenly" was released. Last, our final case study highlights the breadth of search directive usage and the challenges this presents for research on indirect online influence.

Conclusion Our framework for identifying search directives could be useful to system designers or trust and safety professionals across a range of fields. Within this framework, automated classifiers could be developed to monitor social media posts for search directives, that could help researchers and platforms to proactively detect or identify emerging conspiracies and data voids, and could help them think through potential interventions. Similarly, our method could also be used by social media companies, or government agencies, to identify and potentially take action on the actors propagating search directives.

References

[1] Francesca Bolla Tripodi. *The Propagandists' Playbook: How Conservative Elites Manipulate Search and Threaten Democracy*. Yale University Press, New Haven, 2022.

[2] Elisa Shearer and Amy Mitchell. News Use Acrosss Social Media Platforms in 2020. Technical report, Pew Research Center, January 2021.

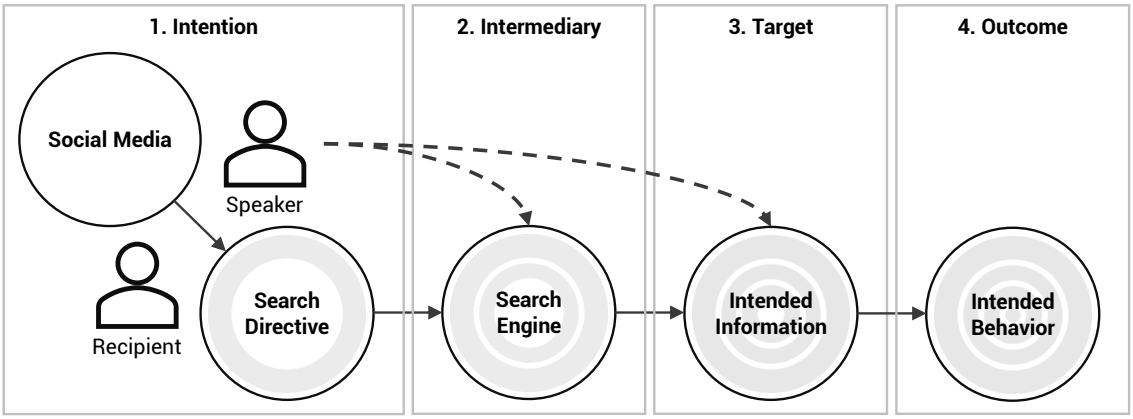
[3] Edelman. Edelman trust barometer 2021. Technical report, Edelman, 2021.

[4] Michael Golebiewski and danah boyd. Data voids: Where missing data can easily be exploited. Technical report, Data & Society, 2019.

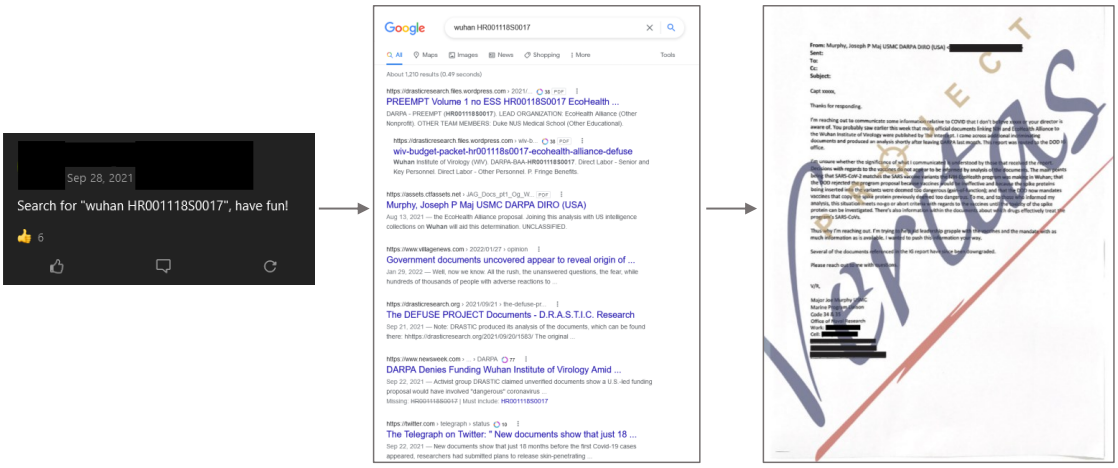
[5] Christ'l De Landtsheer, Philippe De Vries, and Dieter Vertessen. Political Impression Management: How Metaphors, Sound Bites, Appearance Effectiveness, and Personality Traits Can Win Elections. *Journal of Political Marketing*, 7(3-4):217–238, 2008.

[6] Joan Donovan and Brian Friedberg. Source hacking: Media manipulation in practice. Technical report, Data & Society, 2019.

[7] J. L. Austin. *How to Do Things with Words*. Number 1955 in The William James Lectures. Clarendon Press, Oxford, England, 1962.



(a) A diagram depicting how search directives can be a tool for indirect online influence. In the first step, a speaker (the user posting the content) communicates a search directive to a recipient (the user seeing the content) via social media and sets their intention to conduct an online search. In the second step, the recipient uses the search directive to conduct an online search via an intermediary (e.g. a search engine). In the third step, the recipient is exposed to the target information via the intermediary (e.g. a webpage). In the final step, the recipient exhibits the target behavior, which could be clicking on a link, making a purchase, or sharing the information they just "found."



(b) A diagram depicting an example of a real search directive leading to a real data void. In this example, a post we found on the alternative social media site Gab tells viewers to conduct an online search using an extremely specific query ("wuhan HR001118S0017"). At the time of this writing, searching that query on Google Search returns a data void that largely consists of PDFs with the "Project Veritas" watermark. These PDFs appear to be leaked US Department of Defense emails and documents, and push a narrative that SARS-CoV-2 is "an American recombinant bat vaccine, or its precursor virus."

Figure 1: Diagrams illustrating (1a) how search directives can operate as a tool for indirect online influence and (1b) an example of a real search directive leading to a data void.