Analysis of COVID-19 Misinformation Origin and Cure Narratives

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The interplay between three critical aspects --- biology of the virus, human behavior, and government policies --- determines the spread and impact of a given epidemic. With over 2.6 million deaths worldwide, COVID-19 has exposed the vulnerabilities of modern societies to not only an epidemic outbreak, but the corresponding spread of misinformation on social media platforms. In order to understand the human behavior that facilitated the rapid spread of COVID, I focused on studying the spread of misinformation through social media. While biology governs the spread of a virus through a population, the spread of misinformation is relatively less understood, and therefore difficult to control. By selecting different narratives on origin of COVID and its fake cures, I collected data from Reddit posts and corresponding comments. I used a social media analysis tool developed by scientists at the Pacific Northwest National Laboratory to characterize different aspects such as shares, audience, lifetime and speed of spread for the chosen narratives. By carefully studying the peaks in online activity, I associated the corresponding sources in general media to the peaking time periods in spread of misinformation. I then used this knowledge to design a set of recommendations to prevent and control the spread of misinformation in social media with the goal of providing a fast and effective response to an epidemic outbreak in the future.

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