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主　論　文　の　要　旨

	Analysis of the COVID-19 Infodemic Using Networks and Machine Learning
論文題目	(ネットワークと機械学習を使用したCOVID-19インフォデミックの分析)
氏　　名	XU　Wentao

論　文　内　容　の　要　旨

During COVID-19 pandemic, an overabundance of information about the corona virus has been diffused online, making it difficult for the general public to retrieve the legitimate information. This phenomenon is called an "infodemic," which consists of information plus epidemic. QAnon is a meta-conspiracy theory that emerged during Donald Trump's presidency, which happened to coincide with the COVID-19 infodemic. In January 2021, QAnon supporters rushed the U.S. Capitol, severely deepening the cleavage of U.S. society. The study of QAnon has used a network approach to analyze the diversity of users and topics. The QAnon meta-conspiracy theory has evolved to become a large conspiracy umbrella during the COVID-19 infodemic. Social bots, a set of computational algorithms, tend to automatically produce or repost misinformation and accelerate the proliferation of online non-credible information sources. The role of bots has been studied in the context of political events, such as the 2016 U.S. presidential election.

In this Ph.D. research, bots that facilitate the diffusion of QAnon misinformation were first identified. Then, the QAnon conspiracy theory umbrella topics were narrowed down to four popular topics, including two conspiracy topics, ``5G'' and ``Bill Gates,'' and two misinformation topics, ``Trump'' and ``WHO.'' The study found that the bots were segregated in each of the four topics and that the bots' behaviors were highly correlated to human activity. To be more specific, bots tend to follow humans instead of leading humans in online social networks. We should be alert to the negative role of bots and try to protect less-leaning users from being ``infected'' by misinformation and conspiracy theories. To maintain the health of the online ecosystem, this research suggested that future work develop more advanced algorithms to identify malicious users.