Computer Science Colloquium

Online Credibility, Conspiracies, and Extremism: Understanding Problematic Content on Social Media Platforms

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Abstract: Online social media platforms have brought numerous positive changes, including access to vast amounts of news and information. Yet, those very opportunities have created new challengesour information ecosystem is now rife with problematic content, ranging from misinformation, conspiracy theories, to hateful and incendiary propaganda. My research introduces computational methods and systems to understand and design defenses against such problematic online content. In this talk, I will focus on three aspects of problematic online information: 1) non-credible content, 2) conspiracy theories, and 3) extremist propaganda. First, I will present the development and analysis of a large-scale, systematic social media credibility corpus, called CREDBANK. With CREDBANK's 66M tweets nested in 1,377 real-world events, I will show that temporal and linguistic regularities can differentiate credible and non-credible information. Second, leveraging 10 years of discussion data spanning millions of conspiratorial discussion posts on Reddit, I will present scalable methods to automatically detect the recurring elements underlying these discussions and ways to unravel what causes users to join conspiratorial communities. Third, I will dive into a special type of problematic content: narratives of extremists hate groups. Merging framing theory from social movement research with big data analyses, I will discuss the ecosystem of cross-platform communication by hate groups. Finally, I will close by previewing important new opportunities I see my lab tackling in the next few years to address some of these problems, including conducting social audits to defend against algorithmically generated misinformation and designing socio-technical interventions and systems to promote online tolerance, civility, and trust.

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