Introduction to the Minitrack on Digital Methods

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1. Introduction

The Digital Methods minitrack focuses on addressing the methodological challenges of conducting research with digital and social media data. This minitrack was conceived as a forum to advance methodological discussions and to highlight innovations in digital research. While there has been an explosion of research using social media data to study human and machine behavior, the accompanying digital methods literature continues to lag. Researchers, practitioners, and students are left to adapt existing, "non-digital" methods or to reinvent methods via a process of trial and error. The papers presented in this minitrack highlight new approaches to digital methodology and aim to detail specific methodological advances that can benefit the research community at large.

2. Continuing evolution of digital methods

There has been an explosion of research using social media data to study human behavior and social interaction in almost every domain of social science. While the body of literature using digital and social media data is growing at a staggering rate, accompanying methodological contributions about the process of conducting research with digital and social media data remains thin. The existing methodological literature is typically tool or technology driven, and not a result of empirical examination of the data collection process. This leaves researchers without an understanding of how to approach or evaluate the social media data collection process, and in turn, how to appropriately interpret findings from this type of research.

This minitrack addresses this gap by providing a venue to discuss methodological issues and approaches to conducting research with digital and social media data. We welcome papers related to methodological challenges for researchers including, but not limited to: (1) the need for new methods for data collection and analysis, (2) adaptations of existing methods (3) issues of representation and sampling, (4) ephemerality of social media data, (5) holistic collection of digital social media data and associated content such as images/URLs/video, (6) preservation, archiving, and data sharing, and (7) impact of changing platform affordances, interfaces, designs, and APIs. The two papers in the minitrack this year address the themes above and advance our understanding of the use of modeling to understand different types of digital trace data – one paper focusing on online reviews, the other paper focuses on understanding the role of bots in COIV-19 Twitter. The following sections will provide more detailed explanations of each paper.

3. Using epidemiological modeling to understand influence of bots in COVID-19 Twitter

Maleki, Mead, Arani, and Agarwal examine how bots impact the diffusion of opposing views in the online-community context, specifically on Twitter. The authors project constructs and relationships from two commonly used epidemiological models -- SIR (Susceptible, Infected, Recovered) and the SEIZ (Susceptible, Exposed, Infected, Skeptics) epidemiological models -- to three different dataset states including, total tweets in a dataset, tweets by bots, and tweets by humans to understand information diffusion in this online-community context. Their results show the ability of both models to model the diffusion of opposing viewpoints on Twitter. This work also highlights the methodological challenges of adapting existing methods, in this case epidemiological modeling, to the context of digital trace data. They also highlight the complexities of differentiating bots accounts from human-run accounts on social media platforms.

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4. Understanding the usefulness of online reviews using fuzzy-set qualitative comparative analysis

Online reviews serve as an important source of information for consumers when purchasing goods. Kwon and Jahng use fuzzy-set qualitative comparative analysis. This technique allowed the researchers to consider a much more complex set of interactions than the linear relationships used in the existing literature. These complex set of interactions much more accurately reflects the various factors consumers use to evaluate reviews and to account for the differences between search goods and experience goods.

5. Future directions for digital methods

The papers presented in the Digital Methods minitrack point to the ongoing evolution of methodological research related to digital media. There continues to be a need to better understand human and machine behavior in online environments, and in tandem with that need there is growing demand for methods that support digital media scholarship. We look forward to developing these conversations in future years as this minitrack continues to evolve and grow.