



CySoc 2023: 4th International Workshop on Cyber Social Threats

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INTRODUCTION

The rise of online platforms as a communication tool for individuals worldwide has brought an increase in their misuse and abuse. Social platforms have been implicated in promoting and amplifying hate speech, misinformation, extremism, harassment, cyberbullying, human trafficking, drug dealing, gender-based stereotyping, and other forms of violence. These cyber social threats are inherently multifaceted, entailing significant implications for both individuals and communities, which make them challenging to combat while crucial to address.

We are pleased to present the proceedings of the 4th International Workshop on Cyber Social Threats held on April 30, 2023, in Austin, Texas, U.S. The goal of this workshop was to bring together researchers from various disciplines to explore the complex problems that accompany digital platforms. Given the importance of accurate and reliable information in light of the COVID-19 pandemic and other global crises, the spotlight topic for this year's workshop was "Information Integrity during Crises."

PROGRAM OVERVIEW

The workshop attracted research contributions examining complex and challenging issues of harmful online communications ranging from extremist propaganda and radicalization to bots, deepfakes and frauds in several contexts. Two invited keynote speakers shared their recent research on pressing issues related to the spotlight theme. Zakir Durumeric from Stanford University presented the advances in detecting and mitigating cyber threats in online communications. Fabrício Benevenuto from the Federal University of

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Minas Gerais, discussed the role of social media in shaping public opinion and deploying technological solutions in countering misinformation in Brazil. The workshop hosted a discussion about the spotlight topic featuring three experts who provided their perspectives on the matter: Kristina Lerman, Research Professor of Computer Science and Principal Scientist at USC Information Sciences Institute, Aleszu Bajak, Director of data visualization at the Urban Institute, and Filippo Menczer, Luddy Distinguished Professor of Informatics and Computer Science at the Indiana University Luddy School of Informatics, Computing, and Engineering.

In addition, the workshop also featured three demonstrations of software tools that allow researchers and practitioners to study bots, misinformation, and political ads on social media. Kai-Cheng Yang, from Indiana University, presented Botometer, a tool that uses machine learning to identify social media bots, which are often used to spread false or misleading information. Zhouhan Chen, Founder of Safe Link Network, demonstrated Information Tracer, a tool that can track the flow of online information and help identify potential sources of harmful activities. Diego Groisman, from New York University's Cybersecurity for Democracy, presented the Ad Observatory, a tool for exploring political ads on Facebook and Instagram, with the goal of promoting transparency and accountability. These demonstrations provided valuable insights into the current state of the art and offered new possibilities for researchers and practitioners to approach the problem of harmful communications online.

We extend our gratitude to the community for their valuable contributions and active participation that made the workshop a success. We especially thank the authors, program committee, and steering committee members, as well as the speakers and panelists for their valuable efforts¹. As a result of this collective effort, this year's workshop provided valuable contributions to the growing field of computational social science, as in previous years [1, 2], by shedding light on the complex challenges associated with harmful online communications.

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¹<https://cy-soc.github.io/2023/>