SBP-BRiMS 2020 Tutorial Proposal

Title: YouTube Data Analytics: Revealing Computational Propaganda Techniques and Tactics

Abstract: YouTube, since its inception in 2005, has grown to become largest online video sharing website. It's massive user- base uploads videos and generates discussion by commenting on these videos. Lately, YouTube, akin to other social media sites, has become a vehicle for spreading fake news, propaganda, conspiracy theories, and radicalizing content. However, lack of ineffective image and video processing techniques has hindered research on YouTube. The tutorial will introduce data collection methods and the current state of research on YouTube. We will present tools and technologies to analyze user engagement, assess the reach of the channel and apply social network analysis techniques to identify organic and inorganic behaviors. We will demonstrate case studies where these methods were used to study polarization, anti-NATO, and pro-China propaganda. We will shed light upon various content dissemination techniques like cross-platform dissemination, commenter mobs, and coordinated content push used to boost viewership and game the YouTube recommender system.

Keywords: disinformation, misinformation, computational propaganda techniques and tactics, comment flash mobs, inorganic behavior, toxicity, polarization, data collection, YouTubeTracker tool, elections, COVID-19, anti-NATO, anti-west, propaganda in Asia Pacific (APAC), social cyber forensics

Speakers:
Dr. Nitin Agarwal is the Maulden-Entergy Chair and Distinguished Professor of Information Science at University of Arkansas - Little Rock. He is the founding director of the Collaboratorium for Social Media and Online Behavioral Studies (COSMOS). His research contributions lie at the intersection of social computing, behavior-cultural modeling, collective action, social cyber forensics, artificial intelligence, data mining, and machine learning. His research aims to push the boundaries of our understanding of digital and cyber social behaviors that emerge and evolve constantly in the modern information and communication platforms. From Saudi Arabian women's right to drive cyber campaigns to Autism awareness campaigns to ISIS' and anti-West/anti-NATO disinformation campaigns, at COSMOS, he is directing several projects with over $15 million in funding that have made foundational and applicational contributions to social and computational sciences, particularly in understanding coordinated cyber campaigns. He has published 10 books and over 200 articles in top-tier peer-reviewed forums including the NATO's Defense StratCom Journal, with several best paper awards and nominations. His most recent book explores the deviant behaviors on the Internet and is published by Springer in their series on cybersecurity. His work has been covered by local, national, and international media including Bloomberg, US News, KUAR, Arkansas Business, Arkansas Times, Arkansas Democrat Gazette, and many others. Over the last several years, Dr. Agarwal has spoken at various public and professional, national and international forums such as the NATO's StratCom COE (Riga, Latvia), DARPA, US Department of State, US Naval Space and Warfare (SPAWAR), US Pentagon's Strategic Multilevel Assessment groups, US National Academies of Sciences Engineering and Medicine, US Office of the Director of National Intelligence, Facebook Asia Pacific HQ, Twitter Asia Pacific HQ, US Embassy in

Singapore, Singapore Ministry of Communication and Information, NATO Senior Leadership meetings, USIP, among others. Visit https://profiles.ualr.edu/na10 for more details.

Dr. Muhammad Nihal Hussain is a postdoctoral fellow at COSMOS lab at University of Arkansas at Little Rock. His research interest includes multi-platform disinformation campaigns, cross-media information diffusion, crowd manipulation strategies on content-centric social media platforms (Blogs and YouTube). Dr. Hussain has studied several online campaigns ranging from analyzing content-centric platforms to extract opinions and adversarial narrative around NATO's various events and exercises to understanding role of individual social media platforms in a complex multi-platform campaign. He has published 2 book chapters, over 30 peer-reviewed articles, and delivered tutorials and invited talks on blogosphere and YouTube analysis at SBP-BRiMS, NATO TIDE Sprint, "Social media course" organized by NATO STRATCOM COE and WRM organized by NCSU Laboratory of Analytics Sciences. Visit https://cosmos.ualr.edu/about/nihal/ for more details.

Thomas Marcoux is a doctoral student in Information Science. After graduating from L'Université d'Orléans in France, he came to UA Little Rock for his master's degree in Computer Science in 2015. His current focus is on researching and developing technologies providing insights into online behaviors and decision making through social medias analysis. He is currently leading efforts on using data from social media to model political faction dynamics. He is also leading the transitioning of COSMOS research on YouTube into YouTubeTracker, a tool with intuitive UI providing an analyst with all the required toolset to analyze YouTube. Visit https://cosmos.ualr.edu/about/thomas/ for more details.

Joseph Kready is pursuing his undergraduate degree in Computer Science. He is currently leading the effort on collection data from content centric platforms like Blogs and YouTube. Outside of COSMOS and school, Joseph runs the Artificial Intelligence in Arkansas group, which focuses on building the AI community in Arkansas. Joseph has a unique passion for Machine Learning and AI, with research interests in Natural Language processing. Joseph has given over 13 talks, ranging from AI and Deepfakes to Advanced Machine learning using Tensorflow Hub. Upon completing his undergraduate degree, he plans to pursue a master's in Computer Science. Visit https://cosmos.ualr.edu/about/joseph/ for more details.