"Analyzing Twitter Data to Improve Modeling and Simulation of Mitigation Strategies for the COVID-19 Pandemic"

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Περίληψη – Abstract

On Wednesday, March 11, 2020, the World Health Organization declared the rapidly spreading COVID-19 outbreak a pandemic. Different mitigation policies and health guidelines have been recommended and/or mandated since then in an effort to reduce the spread of the virus. Public acceptance of these policies is critical to their success. Social media data present a brief window of opportunity for research on how, and to what extent, the public did or did not comply with the recommended mitigation strategies and public health guidelines, such as social-distancing, quarantine, mask wearing, and hand washing. This presentation will provide an overview of the ongoing research efforts to capture and analyze the public's compliance with (or resistance to) recommended mitigation policies over time. The research involves collection and analysis of real-time data from Twitter, related to COVID19-exposed regional populations in the US. The data are analyzed and grouped in terms of demographic, geographic, and temporal characteristics using various machine learning techniques. The analyzed data are then used to inform the development of simulation models of how humans react to certain mitigation strategies and health guidelines. This research has been funded by the National Science Foundation through the Rapid Response Research (RAPID) mechanism.

Anastasia Angelopoulou is an Assistant Professor at the TSYS School of Computer Science at Columbus State University (CSU). Prior to joining CSU, she was a postdoctoral associate at the Institute for Simulation and Training at University of Central Florida (2016-2018), where she obtained her MSc and PhD in Modeling and Simulation (2015). Her research interests lie in the areas of modeling and simulation and serious games and their applications in domains such as healthcare, military, energy, and education, among others. Her research work has been supported by Epic Games, the Office of Naval Research (ONR) and the National Science Foundation (NSF), among others.

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