Title: Special Issue on Artificial Intelligence Methods in Public Health Emergencies

Description:

An ongoing outbreak of novel coronavirus pneumonia (COVID-19), declared by the World Health Organization as a global public health emergency, has been reported in about eight million cases in over 200 countries and territories. In the recent past, we have also witnessed outbreaks of SARS, Chikungunya, Zika, Ebola, and H1N1. Like any other pandemic in human social history, COVID-19 has posed a greater challenge to public administration. A wide range of complex computational problems have been raised in the public administration of the pandemic, such as medical resource distribution, patient scheduling, public service scheduling, traffic control, production resumption, to name just a few. Researchers and practitioners are jointly devoting efforts to develop solutions to these problems, using various artificial intelligence (AI) methods such as big-data analytics, machine learning, evolutionary computation, and expert systems. Therefore, there is a pressing need to share new findings among the community and bridge the research-practice gap. This special issue aims to bring together recent advances in AI methods in response to public health emergencies, with emphasis on practical and multidisciplinary studies.

List of topics:

We solicit papers on all aspects of AI methods for responding to public health emergencies. In particular, we welcome AI studies at the intersection of multiple disciplines, including public health and operations research.

The topics of interest include, but are not limited to:

- Machine learning methods for risk estimation and spread prediction
- Agent-based systems for social interaction and quarantine policies evaluation
- Intelligent human-machine interaction in online medical services
- Augmented intelligence and knowledge-based systems for infection detection and diagnosis
- Intelligent planning and scheduling of medical resources
- Intelligent robotics and unmanned systems in epidemic hospitals
- Intelligent transportation systems in epidemic areas
- Intelligent supply chains in public health emergencies
- AI for economic recovery from public health emergencies
- Intelligent recommender system in public health decisions for sentiment analysis and information filtering
- Ethics and social implications of AI in public health decisions

Timeline:

- Deadline for submission: October 31, 2020
- Decision on first round of reviews: December 31, 2020
- Submission of revised manuscripts: January 31, 2021
- Decision on second round of reviews: March 31, 2021

Guest editors

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