J-BHI Special Issue on "Healthcare Information Systems for Disease Monitoring and Management in Smart Cities"

As observed in the outbreaks of SARS, swine flu, and more recently Covid as well as other infectious diseases, the huge volume of human traffic between international borders has posed immense challenges to the control of communicable diseases. Traditional techniques for outbreak detection and effective disease-spread analysis all depend on acquisition of multiple types of data. Various aspects of the healthcare information systems combined play a vital role in the implementation of bio-syndromic surveillance for the detection of disease outbreaks earlier than would be achieved via conventional reporting of confirmed cases. Such early detection can be accomplished by monitoring data that are related to the outbreak, such as influenza-like illness (ILI) symptoms, over-the-counter (OTC) drug sales, hospital telephone hotline calls, emergency room visits as well as various forms of internet activity.

In addition to the use of a wide range of multimedia technologies in combating infectious diseases, the Web also serves as a backbone for chronic disease management in systems from personal assistive care and smart home, that extends to a smart city and beyond. Healthcare information systems used in conjunction with sensing systems, telemedicine and sensing networks facilitate the collection and transmission of the interrogate disparate data with diverse conditioned datasets from many different sources. The issue will follow the organization of the 4th International Conference on System Biology and Biomedical Systems. The special issue will be comprised of extensions of some of the best works announced in the conference, along with papers submitted within the open call, taking also into account the target audience of the JBHI journal.

Topics of interest include, but are not limited to, the following:
- Multimedia web healthcare information systems for syndromic surveillance
- Applications for healthcare/pandemic data management
- Novel multimedia technologies enabling epidemic detection and contact tracing
- Big data analysis for disease monitoring
- AI and ML analysis and development for disease monitoring and management
- IoT architecture development for healthcare monitoring
- Security and ethics requirements for healthcare monitoring
- Distributed reporting systems for confirmed cases in clusters
- Digital twins for disease surveillance
- Public health information systems for outbreak detection
- Sensing networks for epidemic monitoring and control
- Integration of systems and networks for outbreak mitigation
- Timely delivery and tracking systems for medication supply management
- Security for communications and networks in the smart city environment
- Distributed communications and networks for public healthcare use cases

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