

## Call for Papers Special Issue on

### Artificial Intelligence Techniques for COVID-19 Imaging Data- Recent Advances

The outbreak of coronavirus disease 2019 (COVID-19) has become a global pandemic as announced by the World Health Organization (WHO) on March 12, 2020. COVID-19 has spread to most countries in the world, and there have been millions of confirmed cases and hundreds of thousands deaths all over the world to date. COVID-19 has led to a global public health emergency and put health organizations worldwide on high alert. In the clinical management of COVID-19, medical images, such as Computed Tomography (CT), Chest X-ray (CXR), and Ultrasound (US), have been widely used as a key and complementary tool for diagnosis, follow-up, prognosis and treatment. In support of the fight on COVID-19 during the current urgent period, artificial intelligence (AI) assisted imaging methods and tools have been investigated and have played an increasingly important role from different aspects. Medical image analysis has become a core technology for fast examination and evaluation, and thus treatment of COVID-19 infected patients. Designing and deploying AI based medical image analysis tools in a short period with limited data has become an urgent need.

This special issue calls for original and innovative methodological contributions which address the key challenges in AI assisted imaging and analysis of COVID-19. Submissions should focus on research and advanced development of the technical aspects of new image analysis methodologies, not just using existing methodologies on COVID-19 related imaging data. All the developed new methods should also be evaluated or validated on real and large scale COVID-19 data.

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

- AI-driven medical imaging (including chest X-ray and CT) analysis for COVID-19 detection
- AI-driven histopathology analysis for COVID-19 diagnosis
- Bioinformatics for COVID-19 subtype rational drug design
- Deep learning-based treatment evaluation and outcome prediction
- AI-based care pathways planning for comorbid patients
- Deep Learning for COVID-19 treatment, and prognosis
- Sensor informatics for monitoring COVID-19 infected patients
- Artificial intelligence in COVID-19 drug discovery and development
- Big data in COVID-19 analysis
- Knowledge representation in COVID-19 analysis
- Machine learning for COVID-19 tracking and prediction models
- Computer vision in COVID-19-related medical imaging
- Artificial intelligence methods in COVID-19 patient tracking
- Artificial intelligence methods in COVID-19 patient monitoring
- Social media security and forensics in COVID-19 risk management
- Predictive Analytics in COVID-19 risk profiling
- AI-driven exploration of susceptibility and infection in humans
- Pattern recognition in COVID-19 risk analysis
- Applications of the Internet of Things in COVID-19
- Artificial intelligence methods in hospital management during an epidemic or pandemic

## **Important Dates**

- Submission due: January 10, 2021
- Notification: March 20, 2021
- Camera-ready submission: April 30, 2021

## **Guest Editors**

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