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All Article Processing Charges (APCs) are waived until June 2023.

Special Issue on “Cognitive-Inspired Computational Computing for Intelligent Health Informatics”

Call for Papers

The special issue introduces the importance and emerging era of cognitive computations in healthcare that combines with massive medical data, Artificial intelligence, computing and informatics, federated learning, Bio-inspired computation, Internet of Medical Things, health data protection, and semantic database, Content-based image retrieval, augmented/virtual/mixed reality etc. The health monitoring and diagnosis for the target structure of interest are achieved through the interpretation of collected data. The advances in sensor technologies and data acquisition tools have led to the new era of big data, where massive medical data are collected by different sensors. This large volume of data, often called big data, cannot readily be processed by traditional data processing algorithms and applications. By intelligently investigating and collecting large amounts of healthcare data (i.e., big data), the sensor can enhance the decision-making process and early disease diagnosis. Hence, there is a need for scalable machine learning, deep learning, and intelligent algorithms that lead to more interoperable solutions and that can make effective decisions in emerging sensor technologies. It is predicted that medical services will be provided remotely in an extensive platform, for instance, remote surgery, wearable sensing to predict illnesses, and intelligent medical helps based on artificial intelligence. To reach this aim, high-performance computing and cognitive-inspired intelligence for distributed healthcare systems can give some vital insights.

Cognitive-inspired Computational Computing (C3) systems focus on the knowledge sharing and scaling ability between patients, doctors, clinics, etc. Therefore, doctors can effectively plan for effective treatment based on medical evidence and patient profile. Intelligent health informatics (IHI) is prominently deciding on the common language to explore different treatment options, data analyzes, and critical patient data retrieval. Therefore, they can enhance the work of professionals to help improve the quality and consistency of decision-making across an organization. The objective of cognitive systems in healthcare is to increases, accelerate, and scale expertise to make powerful everyone in their roles. The optimization algorithms can be applied because of acquiring the sensor data from multiple sources for fast and accurate health monitoring. These applications geared towards the Internet of medical things, cloud analysis, machine learning, robotics, computer vision, and deep learning have enabled the evaluation of the proposed solutions. On the other hand, pervasive and ubiquitous computing still experiences new developments based on fusion-based and blind strategies for the internet of medical things (IoMT) applications over C3_IHI.

Thus, we here are seeking the most impactful and newest findings on how to apply the C3 model and ubiquitous computing in intelligent healthcare services and IoMT. As follows, a brief list of some desired directions is mentioned.

- Multi-objective cognitive-inspired algorithm for IoMT
- Federated learning-assisted distributed biomedical techniques for C3_IHI
- Future concepts of the Internet of health Things and remote healthcare through cognitive computing
- Robust optimization methods for non-linear health data analytics
- Intelligent robotics for IoMT based C3_IHI
- Wearable sensors and pervasive cognitive intelligence for distributed healthcare
- Healthcare infrastructures based on brain-computer interface in future C3_IHI
- Deep learning and cognitive computing for remote and robotic surgery
- AI-enabled service management in mobile hospitals
- Cognitive-inspired intelligence for and remote healthcare
- Computational intelligence in remote big medical data analysis
- Cloud-dependend learning and health informatics across medical diagnosis centers
- Intelligent computation algorithms using complex health data handling for C3_IHI
- Non-linear systems and dynamic modeling for health data analytics

Submission Deadline: June 30, 2023

Please submit your paper via [online submission system](#).

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