Tentative Outline

Special Thematic Issue for the journal Recent Advances in Computer Science and Communications

Special Issue on Medical Image Analysis and Health Informatics

Guest Editors: Dr. Prabhishek Singh, Dr. Manoj Diwakar

- **Scope of the Thematic Issue:**

Analyzing, interpreting, and characterizing medical images in clinical system requires the use of medical image processing and analysis. Increased diagnostic and treatment accuracy and speed, as well as lower processing costs, have been made possible by the rapid technological advancements over the last two decades. The goal of medical image analysis is to make clinical examinations and medical interventions more efficient. An abnormality can be identified, as well as its causes and effects, thanks to this medical image processing tool. Computer vision has demonstrated its ability to conduct picture categorization, segmentation, object identification, 3D rendering, and so forth. It makes use of 3D and 4D information provided by image sequencing, as well as texture, shape, contour, and past knowledge to enhance human comprehension. CT, MRI, ultrasound, microscopy, and nuclear medicine are all examples of recent computer vision technologies that have been used in medical imaging in a variety of ways. With the use of these sophisticated technologies, we have gained much-needed quantitative information that improves patient care without increasing the cost of healthcare.

"Medical Image Computing and Analysis" is the focus of this special issue of Recent Advances in Computer Science and Communications, which will offer state-of-the-art research into medical image processing and analysis. A central concern in this Special Issue is whether or not we can build a connection between traditional techniques based on flexible and interpretable models with the emerging trend in artificial intelligence, augmented intelligence, deep learning, and machine learning etc. We encourage scholars to submit original and distinctive publications, as well as to evaluate articles, in order to achieve this goal. This special issue also determines the basic research problems associated with medical and healthcare applications. Specialists, academics, researchers, and scientists in this discipline should contribute their research success stories.

Keywords: Medical imaging, Medical diagnostics, Health information, Signal Processing, Image Processing, Medical image enhancement and classification.

Sub-topics:

The topics of interest are broad, including but not limited to the related sub-topics listed below:

- 2D/3D medical image segmentation and 2D/3D medical image registration
- Computational medical imaging.
- Geometric data processing in medical imaging.
- Medical Image reconstruction, multi-modality medical image fusion.
- Intelligent steganalysis for medical image.
- Object detection in medical images and medical image classification
- Medical Image forensics.
- Healthcare Patient and Clinical Research.
- Medical image denoising and enhancement.
- Disease detection and prediction.
- Mental health tracking and population health management.

- Patient progress, staff workload tracking, and predicting and preventing risks in Health Care Applications.

Tentative titles of the articles:

- Ultrasound Image Speckling
- Image Steganography in Medical Images
- Multimodal Medical Image Fusion
- ECG based Gender Recognition using Ensemble of Deep Neural Networks
- Medical Diagnostics Analysis
- Medical Data Analysis and Prediction
- Soft Biometrics Retrieval System based on Physiological Signals
- Hybrid Fluorescence Medicated Tomography based Bio distribution Assessment
- Multidimensional Polynomial Splines for Physiological Signal Processing

Schedule:

- ✧ Paper submission: November 30, 2022
- ✧ Review results to authors: December, 30, 2022
- ✧ Revised paper submission: January 30, 2023
- ✧ Final acceptance notification: March 30, 2023

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