Deterministic and Deep Learning-Based Image Processing for Under-Exploited Medical Sensors and Devices

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Message from the Guest Editors

While medical technology has advanced significantly, there is still untapped potential in acquisition and assistive systems that can be optimized using modern artificial intelligence-based techniques. Endoscopists, for example, still lack automated tools to facilitate the diagnosis and follow-up of lesions in hollow organs. Additionally, the effectiveness of deep learning methods over deterministic methods in medical image processing is not always clear, particularly for complex tasks like hollow organ mapping or lesion classification.

The aim of this Special Issue is twofold:

- The Special Issue will focus on all types of medical image applications and devices in which AI methods (segmentation, classification, 3D reconstruction, image mosaicing, etc.) are still limited and can enable improvement in the exploitation of various other additional imaging modalities.
- Secondly, the contributions can be based on either recent deep-learning approaches, or deterministic methods or on a combination of both. The aim here is to discuss the specific advantages and drawbacks of different solutions applicable to usability of medical data and its integration in clinically driven devices.

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Message from the Editor-in-Chief

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