Special Issue on "Skin Lesion Image Analysis for Melanoma Detection"

The goals of this special issue are to summarize the state-of-the-art in both the computerized analysis of skin lesion images, as well as image acquisition technologies, providing future directions for this exciting subfield of medical image analysis. The intended audience includes researchers and practicing clinicians, who are increasingly using digital analytic tools.

Invasive and in-situ malignant melanoma together comprise one of the most rapidly increasing cancers in the world. Invasive melanoma alone has an estimated incidence of 87,110 and of 9,730 deaths in the United States in 2017. Early diagnosis is critical, as melanoma can be effectively treated with simple excision if detected early.

In the past, the primary form of diagnosis for melanoma has been unaided clinical examination, which has limited and variable accuracy, leading to significant challenges both in the early detection of disease and the minimization of unnecessary biospies. In recent years, dermoscopy has improved the diagnostic capability of trained specialists. However, dermoscopy remains difficult to learn, and several studies have demonstrated limits of dermoscopy when proper training is not administered. In addition, even with sufficient training, analyses remain highly subjective.

Example dermoscopic image

Newer imaging technologies such as infrared imaging, multispectral imaging, and confocal microscopy, have recently come to the forefront in providing the potential for greater diagnostic accuracy. In addition, various research studies have been focused on developing algorithms for the automated analysis of skin lesion images. Combinations of such technologies have the potential to serve as adjuncts to physicians, improving clinical management, especially for patients with a high degree of lesion burden.

This special issue aims to cover all aspects of skin lesion image analysis. Topics of interest include, but are not limited to:
- ✓ Novel and emerging imaging technologies
- ✓ Image enhancement
- ✓ Image registration
- ✓ Image segmentation
- ✓ Feature extraction
- ✓ Image classification
- ✓ Hardware systems

We are particularly interested in studies that make their data sets and software publicly available.

Please note that new submissions are required to be at least 70% different from any other publications. For detailed manuscript preparation/submission instructions, please visit http://jbhi.embs.org/for-authors/prepare-and-submit-your-manuscript/

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Important Dates
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