

A Review on Medical Image Registration Techniques

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Abstract : This paper discusses the current trends in medical image registration techniques and addresses the need to provide a solid theoretical foundation for research endeavours. Methodological analysis and synthesis of quality literature was done, providing a platform for developing a good foundation for research study in this field which is crucial in understanding the existing levels of knowledge. Research on medical image registration techniques assists clinical and medical practitioners in diagnosis of tumours and lesion in anatomical organs, thereby enhancing fast and accurate curative treatment of patients. Literature review aims to provide a solid theoretical foundation for research endeavours in image registration techniques. Developing a solid foundation for a research study is possible through a methodological analysis and synthesis of existing contributions. Out of these considerations, the aim of this paper is to enhance the scientific community's understanding of the current status of research in medical image registration techniques and also communicate to them, the contribution of this research in the field of image processing. The gaps identified in current techniques can be closed by use of artificial neural networks that form learning systems designed to minimise error function. The paper also suggests several areas of future research in the image registration.

Keywords : image registration techniques, medical images, neural networks, optimisation, transformation

Conference Title : ICIIP 2018 : International Conference on Image Processing

Conference Location : Zurich, Switzerland

Conference Dates : January 15-16, 2018