Abstract

Image registration is the series of methods which superimposes or aligns two or more images of the same picture taken at different instance of time or moment, from different perspective or angle, and/or by different sensors or any external device. Registration makes the pixels in two images precisely coincide to the same points in the scene. After registration of the images, it can be combined or fused in a way that improves information extraction. Image registration combines two images, i.e., reference image and sensed image, geometrically. There are different approaches of image registration and these approaches are categorized according to their nature that is area based and feature based. Essential steps in Image Registration are feature detection, feature matching, transform model estimation, and image resampling and transformation. This paper focuses on an analysis on Image Registration methods. A literature survey of different research of Medical Image Registration is also presented here. Medical Imaging plays a significant role in medical diagnosis and treatment. It provides a clear view for medical experts in taking the correct decisions on patient’s condition. By combining more than one image obtained from different medical imaging modalities, experts can achieve better
image visualization for different human anatomy. The aim of this paper is to provide a source for the researchers involved in Image Registration as well as Medical Image Fusion used in diverse applications.

References


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Index Terms

Computer Science Image Processing
Keywords

Image Registration; Feature Detection; Feature Matching; Transform Model Estimation; Resampling; Transformation; Medical Imaging; Medical Image Modalities.