Abstract

During acquisition of brain Magnetic Resonance images (MRI), spatial distortion may occur due to hardware imperfection of the scanning device, movement of patients, etc. which makes image registration an important area of research in medical imaging. In this paper, one reference image is used to align another scanned MR image accordingly. Here the global affine transformation is used for performing spatial transformations and calculating mutual information as a similarity metric. Mutual information obtained by calculating the joint entropy of the two images using their joint histogram. Images are then iteratively aligned until maximum mutual information achieved.
References

- Roger P. Woods, "Handbook of Medical Imaging processing and analysis", chapter IV, page no 425-635.

Index Terms

Computer Science  Image Processing

Keywords

Magnetic Resonance Imaging (mri)  Affine Transformation  Mutual Information  Joint
Entropy