Abstract

Osteoarthritis is one of the popular causes of debility in elderly & overweight people. Osteoarthritis is a joint disease that invades the cartilage of bigger joints like knee, hip, feet and spine. Cartilage helps the easy glide of bones & obstructs them from rubbing each other. In Osteoarthritis cartilage is ruptured due to which bones start kneading each other with a severe pain. The scenario for the evaluation of Osteoarthritis includes clinical examination & various medical imaging techniques. In this work the authors have used Active contour segmentation technique to segment the portion/part of the knee X-ray image to diagnosis the disease. The numerous features like Haralick, Statistical, First four moments, Texture and Shape are computed and classified using Random Forest classifier. The proposed method gives the classification accuracy rate of 87.92% which are more competitive and promising with the existing algorithms.


Index Terms

Computer Science  Image Processing

Keywords

Osteoarthritis, Knee X-ray, Activecontour algorithm, Random forest.