Abstract

Medical images carry huge amount of information for the analysis of various diseases in the human body. The X-ray images are used for examining bone structure and other tissues. Also, the clear conclusion about disease diagnosis and treatment can be drafted out from the medical experts based on the X-ray images. The objective of this paper is to compare the performance of edge detectors used for edge detection of the human femur bone in X-ray images. The experimentation has been done with various edge detectors, namely, Roberts, Sobel, Prewitt, Canny's and Laplace operators. The results show that the Laplace operator performs better than other methods in its application to X-ray images of femur bones, which has significance to medical and forensic experts.

References


Karen L. Bell, Nigel Loveridge, Jonathan Reeve, Christopher D. L. Thomas, Sophie A. Feik, and John G. Clement, 2001 Super-Osteons (Remodeling Clusters) in the Cortex of the Femoral Shaft: Influence of Age and Gender, The Anatomical Record Wiley-Liss Inc.

Richard Green, Jim Graham, Hugh Devlin, April 2011 Multi-scale rigid registration to detect damage in micro-CT images of progressively loaded bones, Chicago, IEEE International Symposium on Biomedical imaging.


Rajesh Sangram, December 2000 Estimation of age from epiphyseal union of lower end of femur and upper ends of tibia and fibula in subjects of north Karnataka , Belgaum, Ninth Annual State Conference of Karnataka Medicolegal Society.


Jorn Op Den Buijs, Dan Dragomir-Daescu, November 2011 Validated finite element models of the proximal femur using two-dimensional projected geometry and bone density, New York, NY, USA , Elsevier Journal for Computer Methods and Programs in Biomedicine.


Yunfeng Li, YongHao Guo, Yukun Cao, 2009 Apple Image Classification Method Based


**Index Terms**

Computer Science  Pattern Recognition

**Keywords**

Femur Bone  Edge Detection  X-ray Images