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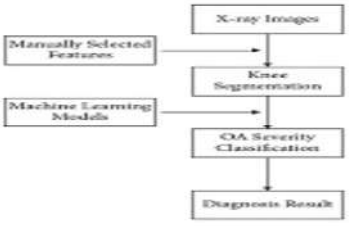
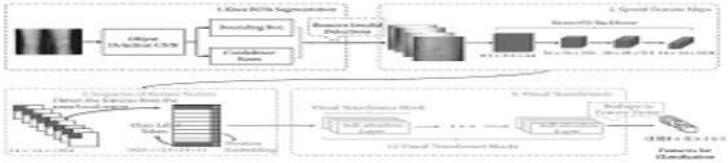
(57) Abstract :
Automated knee osteoarthritis detection in X-ray images using OpenCV - Deep Learning Algorithms Abstract: The most collective form of arthritis osteoarthritis, affects over 50 million people worldwide. The Kellgren–Lawrence (KL) grading system, which considers data from both knee bones, is used to assess osteoarthritis (OA) in the knee bones. The development of computer-aided methods has recently aided in the diagnosis of osteoarthritis. As a result of this limitation, several early semiautomatic segmentation algorithms could only handle large datasets. The severity of osteoarthritis is assessed using well-known CNN architectures, but the interactions between local regions are not investigated. We can eliminate the need for human intervention by incorporating the YOLO object detection model and the diagnosis workflow. This page depicts a comprehensive approach to automatic osteoarthritis diagnosis. After training on 200 noted photos from over 4500 samples, our method can segment 95.57 percent of the data. Furthermore, when compared to traditional CNN structures, our classification result shows a 2.5 percent increase in accuracy.





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