IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 11, May 2025
Impact Factor: 7.67

Cancer Detection Web Application

Prof. Niketa Mahajan[1], Mayur Reddy[2], Rushikesh Vayandeshkar[3], Himanshu Patil[4], Prathmesh Yewale[5]

[*2,3,4,5]Student, Department of Computer Engineering
[1]Assistant Professor, Department of Computer Engineering
Alard College of Engineering and Management, Pune, India.

Abstract: *Colorectal cancer poses a significant global health concern, emphasizing the importance of early detection of polyps during colonoscopies for effective intervention and prevention. This research presents an innovative approach to polyp detection utilizing advanced Convolutional Neural Networks (CNN) models with VGG and ResNet architectures. The proposed system leverages the VGG algorithm, a widely used CNN architecture for semantic segmentation tasks, to analyze colonoscopy images and learn intricate features associated with polyp identification. VGG's depth and capability to capture complex patterns in images make it an ideal choice for this medical image analysis task.*

The training dataset comprises diverse colonoscopy images, including variations in lighting conditions, polyp sizes, and anatomical contexts. Rigorous evaluation metrics, such as sensitivity, specificity, and accuracy, are employed to assess the model's performance. Comparative analyses against traditional machine learning models highlight the advantages of utilizing CNN models with VGG and ResNet architectures for polyp detection.

The outcomes of this study hold promise for enhancing the efficiency of polyp detection during colonoscopies, potentially reducing the workload on medical professionals and improving overall patient outcomes. The integration of advanced CNN models opens avenues for future research in medical image analysis, exploring the benefits of algorithms in healthcare applications. This research contributes to the advancement of automated polyp detection systems, aiming to revolutionize the way polyps are detected during colonoscopies and ultimately improve patient care in colorectal cancer prevention.

Keywords: Polyp Detection, VGG and ResNet Architectures

DOI: 10.48175/IJARSCT-27230