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 8, June 2025
Impact Factor: 7.67

A Review of Various CNN Models and Applications in Healthcare

Sweta Dave and Smruti Dave
Lecturer, Department of Computer Engineering, P. P. Savani University, Surat, India[1]
PhD Scholar, Department of Doctoral Studies, Adani University, Ahmadabad, India[2]

Abstract: *Medical image analysis is an essential component of contemporary healthcare systems. The spectrum of medical imaging modalities includes X-rays, ultrasound, magnetic resonance imaging, and more. The probable disease process has been illuminated through the use of computer-aided diagnostic tools (CAD), but analysis and diagnosis based on a single image are typically difficult. Artificial intelligence (AI) applications possess considerable potential to optimize and enhance routine medical procedures, including but not limited to diagnosis, treatment, prevention, progression, and personalized care. With medical imaging, machine learning—the cornerstone of the current artificial intelligence (AI) revolution—offers new opportunities for clinical practice. Algorithms for machine learning (ML) recognize recurring patterns in these videos or images and use that information to accurately identify unfamiliar images. Deep learning approaches have attracted a lot of attention recently as a means of solving a variety of issues, particularly in the disciplines of medical imaging. This chapter is a comprehensive compilation of CNN in context of medical image analysis and approaches to utilize it in varied applications. An extensive and elaborate study of the models applied for the detection and classification of different diseases. The study demonstrates how CNNs may automate feature extraction, making it possible to identify symptoms and patterns in medical images that are essential for a precise diagnosis.*

Keywords: Convolutional Neural Network, Medical Imaging, Diseases Detection and classification

DOI: 10.48175/IJARSCT-28195