

# Computer Aided Disease Detection using Finger Nail Image Processing Technique

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**Abstract:** Human analysis is a method that can identify various diseases by examining different parts of the body. One of these is the fingernail, as it is the last organ in the body that receives oxygen. Because of this, it can sometimes exhibit early signs of a disease. More accurate findings may be produced by using digital image processing techniques to examine changes in human nails, making it possible to anticipate many illnesses with simplicity. The main focus of this study is on the role that nail colors, textures, forms, and flexibility play in illness prediction. Due to the limitations of human vision in differentiating minor colour changes, clinicians must rely on visual inspections of patients' nails in traditional illness detection procedures, which can be laborious and less reliable. Nail characteristics are detected using image analysis and digital image processing techniques include image capture, pre-processing, segmentation, and feature extraction. Normal healthy nails are glossy, pink, and smooth. However, this study examines multiple approaches used to analyse nail photos and find disorders. The objective is to advance beyond conventional observation-based methodologies and improve the precision and effectiveness of illness prediction.

**Keywords:** Nail image processing, early detection, Fingernail analysis, Fingernail, Nail body, Nail texture

## REFERENCES

- [1]. Research conducted by Gandhat S., Thakare A.D., Avhad S., et al., involved the analysis of nail images from patients. This study was published in the International Journal of Computer Applications in June 2016 (Volume 143, Issue 13).
- [2]. Indrakumar S. and Shashidhara M.S. conducted a study on eye troubles using palm print and image processing techniques. Their research was published in the International Journal of Recent Trends in Engineering & Research in May 2016 (Volume 2, Issue 5).
- [3]. Sharma V. and Shrivastava A. developed a system for disease detection by analyzing the color and texture of fingernails. Their work was published in the International Journal of Advanced Engineering Research and Science in October 2015 (Volume 2, Issue 10).
- [4]. Kumuda S. proposed an image pre-processing method for fingernail segmentation, which was presented at the 2017 IEEE 2nd International Conference on Signal and Image Processing.
- [5]. Indi Trupti and Yogesh A. Gunge introduced an early-stage disease diagnosis system using human nail image processing. Their research was published in the I.J. Information Technology And Computer Science in July 2016 (Volume 7).
- [6]. Nityash Bajpai, Rohit Alawadhi, Anuradha Thakare, Swati Avhad, and Sneha Gandhat developed an automated prediction system for various health conditions by analyzing human palms and nails using image matching techniques. Their work was published in the International Journal Of Scientific & Engineering Research in October 2015 (Volume 6, Issue 10).
- [7]. Hardik Pandit and Dr. Dipti Shah presented a model for nail color analysis as an application of digital image processing. Their research was published in the International Journal Of Advanced Research In Computer Science And Software Engineering in May 2013 (Volume 3, Issue 5).

- [8]. Darshana A., Dr. Jharna Majumdar, and Shilpa Ankalaki developed a segmentation method for automatic leaf disease detection. Their research was published in the International Journal Of Innovative Research In Computer And Communication Engineering in July 2015 (Volume 3, Issue 7).
- [9]. Saranya V. and Ranichitra A. employed image segmentation techniques to detect nail abnormalities. Their work was published in the International Journal of Computer Technology & Applications (Volume 8, Issue 4).
- [10]. Jimita Baghel and Prashant Jain proposed a K-Means segmentation method for automatic leaf disease detection, which was published in the International Journal Of Engineering Research And Application in March 2016 (Volume 6, Issue 3, Part -5).