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Web-Based System for Blood Cancer Detection Using Convolutional Neural Networks with Integrated Doctor Recommendation

P. Manikandaprabhu[1], S. Priyadharshini[2], K. Srikavi[3], G. Swetha[4]
Assistant Professor, Dept of Computer Science and Engineering[1]
Students, Computer Science and Engineering[2,3,4]
Anjalai Ammal Mahalingam Engineering College, Kovilvenni, Thiruvarur, Tamilnadu, India

Abstract: *Blood cancer, specifically leukemia, is one of the most lifestyles-threatening illnesses requiring well timed and correct prognosis. Traditional diagnostic tactics depend on guide inspection of blood smear images by means of pathologists, that is frequently time-eating, subjective, and dependent on expert availability. This paper affords a web-based application that leverages Convolutional Neural Networks (CNN) for the automated detection and category of blood most cancers from microscopic pix. The machine is built using Flask for the backend, included with a trained CNN version, and OpenCV for preprocessing of input photos. Users can add blood smear images through a person-pleasant interface, and the device performs actual-time classification into classes including Benign, Malignant Early Pre-B, Malignant Pre-B, and Malignant Pro-B. The application also connects customers with nearby experts primarily based on geographic area, and consists of functions inclusive of user registration, doctor critiques, and visible analytics of the prediction process. By combining deep studying with reachable net technology, this solution objectives to help medical professionals in early diagnosis and support better healthcare delivery, in particular in underserved or rural regions. Keyword Blood most cancers detection, CNN, Flask internet utility, TensorFlow, OpenCV, Medical photo category, Deep gaining knowledge of, Leukemia diagnosis*

Keywords: Blood cancer detection, CNN, Flask, TensorFlow, OpenCV, Deep learning.

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