Abstract

Early stroke detection is a crucial step to increase the chances of recovery and reduce the risk of complications. However, the challenges in analyzing medical images, especially in areas with limited radiologists, drive the need for fast, accurate, and portable systems. This research aims to develop an intelligent system based on artificial intelligence (AI) that can detect abnormalities in CT scan images of the head. The system integrates HuskyLens' AI vision device with an App Inventor-based app to provide an easily accessible medical diagnosis solution. The system process begins with preprocessing CT scan images to ensure optimal data quality, followed by analysis using HuskyLens, which is trained to recognize abnormal patterns such as tumors and bleeding. The results of the analysis are then transferred in real-time to the App Inventor app via communication protocols such as Bluetooth. The app displays the initial diagnosis in a user-friendly interface, accompanied by medical recommendations. Validation was carried out by comparing the system's detection results with manual diagnosis by radiologists, resulting in a promising level of accuracy. The results of the study show that this system is able to detect abnormalities quickly and reliably, while providing an intuitive interface for medical personnel and lay users. With further development, this system is expected to support health services, especially in areas with limited access to advanced diagnostic facilities.

Keywords: early detection, Stroke, CT Scan, Huskeylens, App Inventor