# *ABSTRACT*

*Malaria can be diagnosed more quickly by utilizing technology to classify microscopic blood images. Microscopic image classification is the process of grouping images based on the visual characteristics of Plasmodium parasites in human blood cells. The use of accurate and efficient classification techniques is crucial to support fast and accurate diagnosis. One of the approaches used is deep learning with the Convolutional Neural Network (CNN) algorithm, which is effective for pattern recognition in digital images. This study uses two CNN architectures, LeNet-5 and AlexNet, to classify two malaria species, Plasmodium falciparum and Plasmodium vivax, in thin blood smear images. The dataset used consists of microscopic images labeled according to the type of parasite. Although both models were expected to provide good results, the findings show that these models failed to achieve optimal performance in recognizing the malaria species, as reflected by the low accuracy achieved (56.25%) with the LeNet-5 model and (48.8%) with the AlexNet model. This failure is suspected to be caused by dataset limitations, class imbalance, and the inappropriateness of the model architectures, which are not well-suited to the complexity of microscopic images. These findings provide insights into the challenges faced in malaria image classification and offer a foundation for further development in automated malaria diagnosis support systems.*



***Keywords**: Blood Cells, CNN, Malaria, Plasmodium falciparum, vivax*