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ARTICLE

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A CNN-BASED FRAMEWORK FOR LUNG CARCINOMA CLASSIFICATION WITH Z-SCORE COLOR NORMALIZATION

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Accurate and automated lung carcinoma diagnosis is essential because of the high mortality rate worldwide. The conventional diagnosis process is prone to errors, particularly with the growing number of cases. In this paper, a CNN-based system with Z-score color normalization for the classification of histopathological images into Lung Adenocarcinoma, Lung Squamous Cell Carcinoma, and Non-Malignant regions is proposed. A total of 11,580 image patches of size 512 × 512 pixels were employed. Z-score normalization minimized the effect of staining and intensity differences. The system attained an accuracy of 96.02% with a batch size of 64 for 60 epochs.