

ENHANCING DEEP LEARNING BASED LUNG CANCER HISTOPATHOLOGICAL IMAGE CLASSIFICATION THROUGH GRAY-WORLD COLOR NORMALIZATION

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This study examines the effectiveness of Gray-World color normalization in reducing staining-induced color variability in histopathological images to enhance deep learning performance. A VGG16-based transfer learning model was trained using both original and normalized datasets consisting of 11,580 image patches across LUAD, LSCC, and Non-Malignant classes. The normalized dataset resulted in notable improvements in precision, recall, and F1-score metrics. ROC curve analysis further confirmed higher AUC values compared to the unnormalized data. Overall, Gray-World normalization improved the robustness of CNN-based lung cancer classification models.
