ABSTRACT:

This project describes cervical cancer detection and classification using deep convolution neural network. Pre-cancer screening and treatment, colposcopy has played an essential role in lowering the incidence and mortality from cervical cancer over the last 50 years.Image processing using the convolutional neural network (CNN) model shows its superiority for the classification of cervical cancer type in the field of deep learningResnet50 classification algorithm is implemented for cervical cancer detection and classification. The sensitivity and specificity of the proposed cervical cancer screening system was 99.4 and 34.8%, respectively, with an area under the curve (AUC) of 0.67. The model could also distinguish between negative and positive cells. The sensitivity values of the atypical squamous cells of undetermined significance (ASCUS), the low-grade squamous intraepithelial lesion (LSIL), and the high-grade squamous intraepithelial lesions (HSIL) were 89.3, 71.5, and 73.9%, respectively. This system could quickly classify the images and generate a test report in about 3 minutes. Hence, the system can reduce the burden on the pathologists and saves them valuable time to analyze more complex cases.