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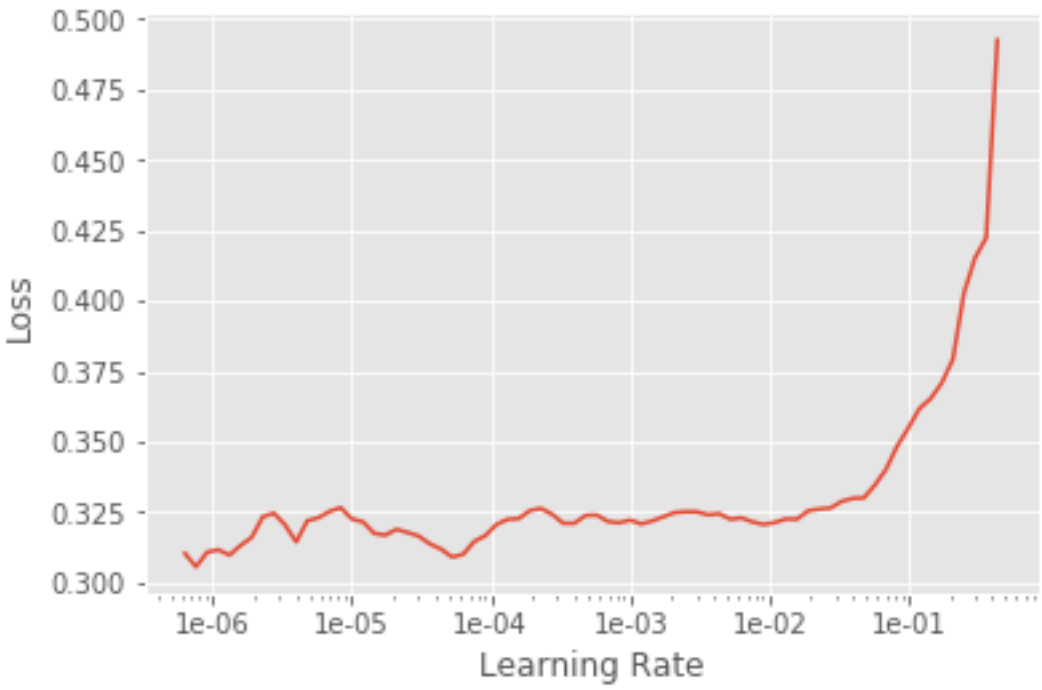
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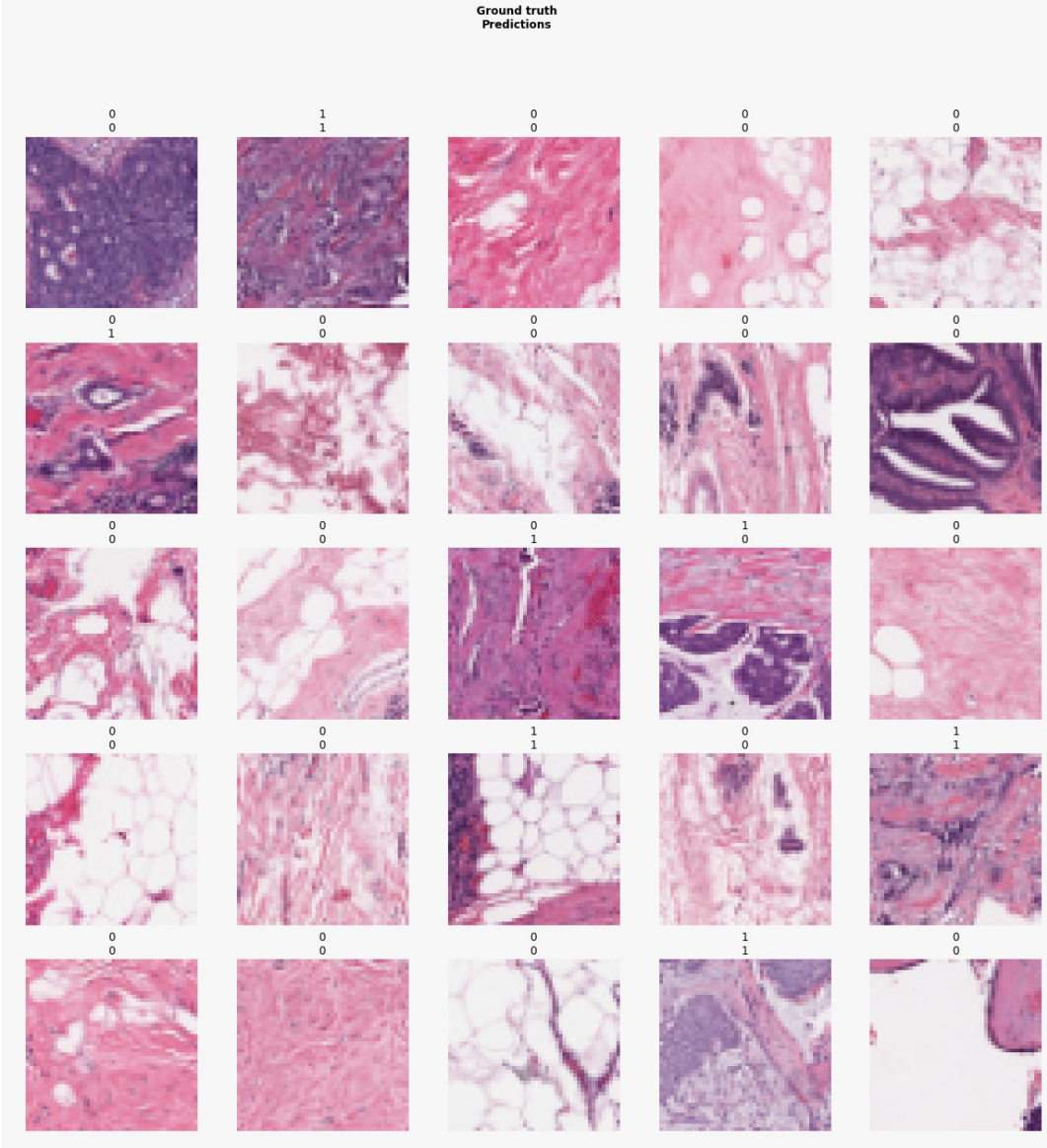
Title: Performance of a novel deep learning library in recognition of breast cancer from whole slide images of histopathological sections

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Evaluation of histopathologic slides for recognition of foci of cancer is a labour intensive and time consuming process. We evaluated two different machine learning models, both deep convolutional neural networks, built on ResNet 50 architecture, in recognition of foci of breast cancer from histopathological images. The first model was pre-trained with the ImageNet dataset, the second was trained only on training set with an optimized learning rate. Whole mounted slide images (WSI) dataset prepared by Cruz Roa et al was used for this study. 198,738 images of benign foci and 78,786 malignant foci were extracted from the WSI images. We split the dataset randomly in training and evaluation set. After completion of training, both models could detect foci of cancer with 88% sensitivity. We conclude that pretrained ResNet models have the potential to become an effective screening tool for histologic diagnosis of breast cancer.

Figures if any (BW/Color):





Biography

Dr Parikshit Sanyal, MD is a pathologist from India who actively pursues development of machine learning models in pathology. He has 3 publications in reputed journals on this subject. (Up to 100 words)

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