

Intern

Breast Cancer Detection and Classification

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Histology:

- Classical Convolutional Neural Network Resnet-50 for feature Extraction and clustering followed by SVM classifier [1]
- Convolution Neural Network pre-trained BVLC CaffeNet Model for deep features Extraction and classification.[2]
- Inception Recurrent Residual Convolutional Neural Network an improved hybrid DCNN architecture based on inception, residual networks, and the RCNN arch.[3]
- Stacking several layers of Convolution Neural Network with K-fold validation[4]
- CNN on color constantly processed Images and histogram equalization [5]

Mammography:

- Zernike moments to analyze texture properties of ROI patches, classified using KNN and SVM [6]
 - Adaptive Level Set Segmentation considering two sets of features extracted by
 - Spatial grey level dependence and Rubber band straightening transform
 - Normalized radial lengthKNN for Classification [7]
 - Deep CNN Alexnet Model by Transfer Learning[8]
 - Multilayer perceptron networks and radial basis functions based on Gaussian kernels[9]
 - Wavelet decomposition, the enhancement, and the wavelet reconstruction(Level selection and segmentation blocks). Segmentation by
 - Discrete contour models
 - Region growing[10]
 - Bilateral Subtraction for alignment of right and left breast, Texture Features from Normalized Co-Occurrence matrix using quad-tree region model, Followed by ANN classification model.[11]
 - Linde Buzo and Gray Vector Quantization Technique for segmentation of the tumour[12]
 - Segmentation by Connected Component Labeling algorithm. SIFT method for image representation and KNN or SVM for Classification.[13]
 - Cascade of R-CNNs and Random Forests[14]
 - Image decomposition by gabor wavelets, Image processing techniques for the representation of Pectoral muscle[15]
 - Multiple-instance learning[16]
 - Multi resolution Feature analysis, Binary classification tree [17]
 - Dixon and Taylor (DTLO) line enhancement algorithm [18]
 - Morphology, Multiscale Topological Feature Extraction and, variants of knn[19]
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- Preprocessing by contrast limited adaptive histogram equalization Classification : Transfer learning and fine tuning on pre trained CNN (GoogLeNet, ResNet-50 , DenseNet201, Xception, Inceptionv3 [20]
 - CNN feature extraction by VGG net followed by fusion of extracted features of 4 views.[21]