Image Processing

Breast Cancer Detection

Phase#1

Abstract:

Breast Cancer is one of the significant reasons for death among ladies ,early detection of tumour in breast is the only way to cure breast cancer, Using CAD (Computer Aided Diagnosis) on mammographic image is the most efficient and easiest way to diagnosis for breast cancer, a breast cancer recognition method based on image processing is systematically expounded from Breast cancer detection, picture segmentation, image registration, and image fusion

Introduction:

Breast cancer is a malignant cell growth in the breast. If left untreated, the cancer spreads to other areas of the body. Excluding skin cancer, breast cancer is the most common type of cancer in women in the United States, accounting for one of every three cancer diagnoses.

An estimated 211,240 new invasive cases of breast cancer were expected to occur among women in the United States in 2005. About 1,690 new male cases of breast cancer were expected in 2005.

Risk Factors:

Etiology:

The etiology of breast cancer is not fully understood. A variety of interrelated factors, such as genetics, hormones, the environment, sociobiology, and physiology can influence its development. Other risk factors such as proliferative breast disorders are also associated with breast cancer development, especially if the biopsy shows typical hyperplasia. However, in 70% of breast cancer patients, no risk factors can be identified.

Breast cancer types:

The WHO classifies breast cancer into

(A) Epithelial which can be non-invasive ductal carcinoma in-situ (DCIS), lobular carcinoma in-situ (LCIS), or invasive ductal (85%), lobular (1%), mucinous (5%), papillary less than (5%), medullary less than (5%)

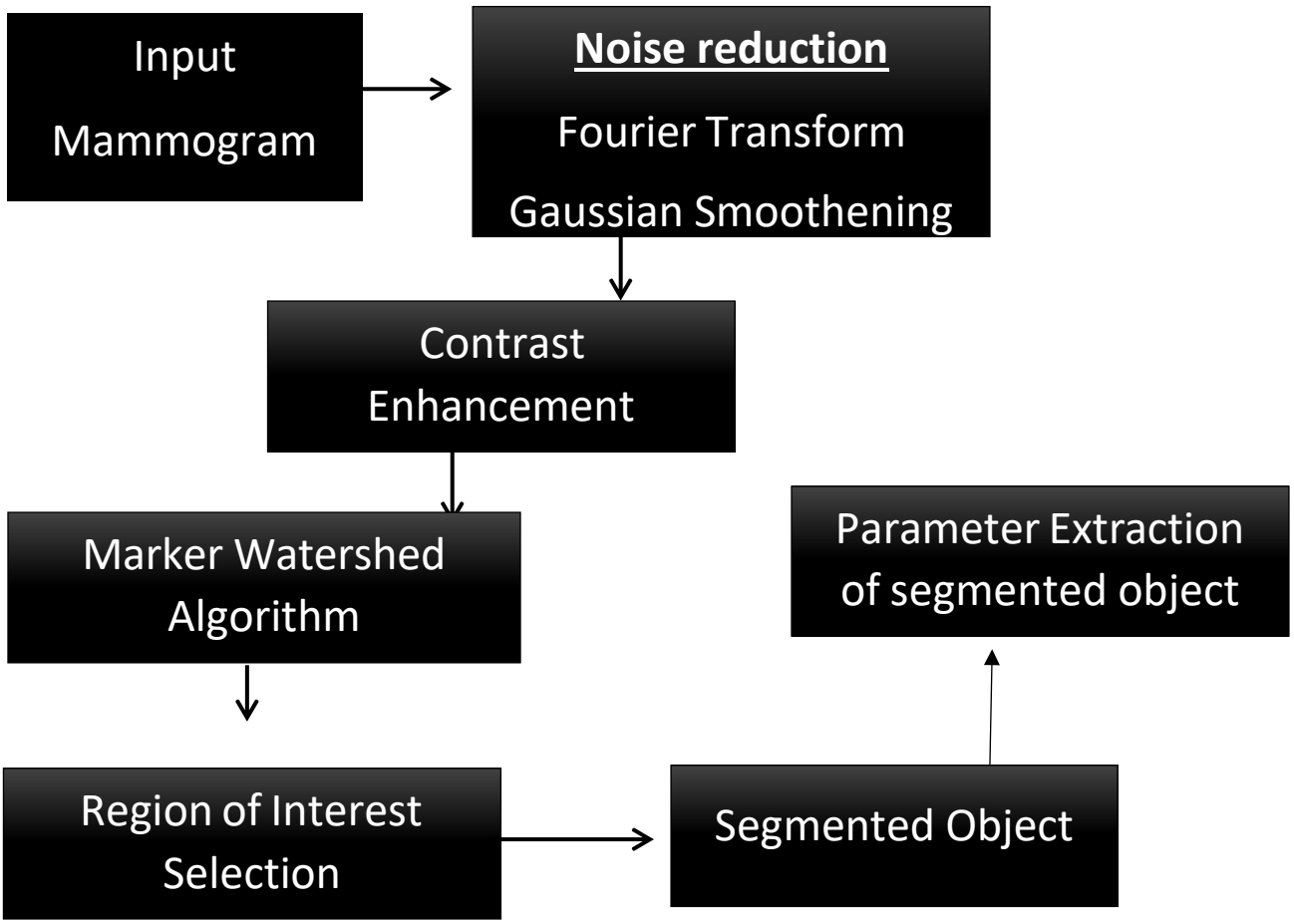
(B) Mixed connective tissue and epithelial

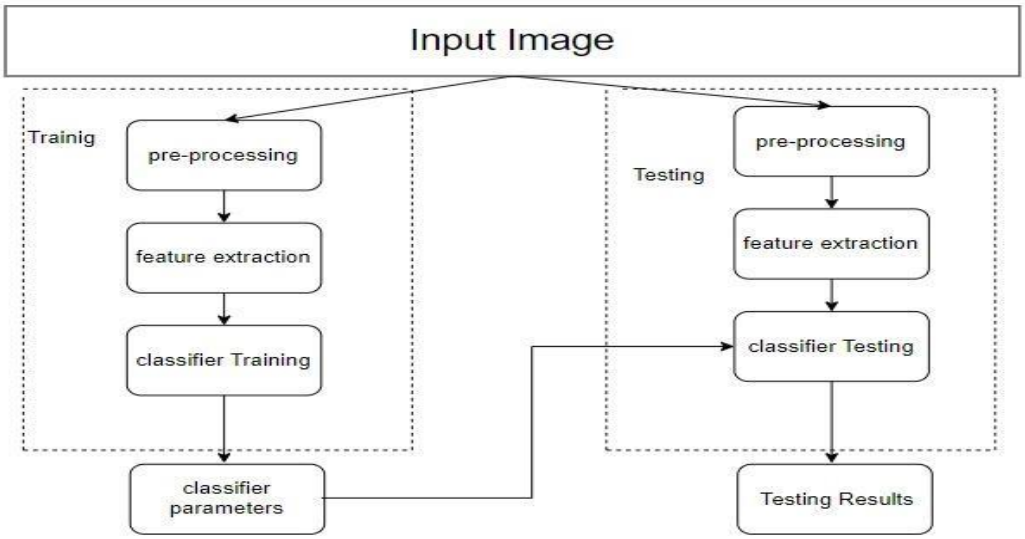
(c) Miscellaneous. The majority of breast cancers are adenocarcinomas arising from the epithelium of the ducts and lobules (ductal and lobular

Physiological Factors:

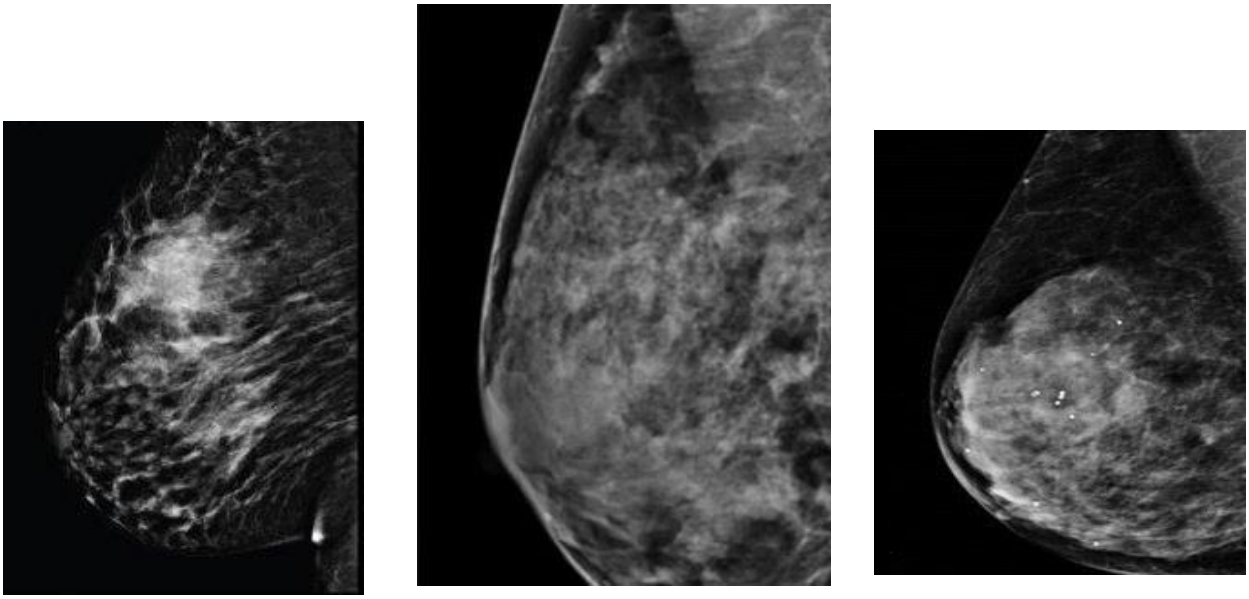
Physical activity levels can have an impact on the risk of breast cancer. Although data in this area is not entirely consistent, moderate physical activity is associated with a lower risk of breast cancer. Studies have shown a 30% reduction in risk level associated with a few hours per week of vigorous activity compared to no exercise at all

Methodology:





DataSet:



Related Works:

- https://www.researchgate.net/publication/317802593_Breast_Cancer_Detection_using_Image_Processing_Techniques
- (PDF) Breast cancer detection: A review on mammograms analysis techniques (researchgate.net)
- https://www.ijert.org/research/breast-cancer-detection-using-machine-learning-techniques-IJERTV10IS070064.pdf