# Design of an Automated Breast Cancer Masses Detection in Mammogram Using Cellular Neural Network (CNN) Algorithm

## Abstract

An automation system using Cellular Neural Network (CNN) algorithm is proposed to assist the radiologists' task in interpreting the digital mammogram image for detecting the presence of breast masses abnormalities. Mammogram images are low contrast ergo; however by adopting the trained cellular neural network template, it is able to enhance the medical visual quality of the image significantly which is beneficial for early detection. By employing the trained CNN template, the extraction of abnormal breast lesion masses in digital mammogram image can be done efficiently with detection sensitivity up to 100 percent. Furthermore, a Matlab-based graphical user interface (GUI) is developed, featuring a user friendly concept which patient data and output images can be saved in the computer by the radiologists for future reference.

Keywords; Cellular Neural Network (CNN), Mammogram, Breast cancer