**LEARNING INDUCTIVE ATTENTION GUIDANCE FOR PARTIALLY SUPERVISED PANCREATIC DUCTAL ADENOCARCINOMA PREDICTION**

**ALTERNATE TITLE**

CNN based pancreatic ductal adenocarcinoma prediction

**ABSTRACT**

Pancreatic ductal adenocarcinoma (PDAC) is one of the deadliest cancer types worldwide, with the lowest 5-year survival rate among all kinds of cancers. Approximately 60-70% of PDAC arise from the head of the pancreas, whereas 20-25% arise from the body/tail (9). In general, tumors arising from the head of the pancreas come to clinical attention earlier than tumors arising from the body and tail, as the head of the pancreas contains the common bile duct. In this study, state-of-the-art deep learning models were used to develop an automatic framework for PDAC detection, focusing on small lesions. CE-CT or MRI image scans from a cohort of 119 pathology-proven PDAC patients and a cohort of 123 patients without PDAC were used to train a convnet for automatic lesion detection and segmentation (convent). Finally deep convolution neural networks classifier is applied then result image will compared with the dataset images and it will display whether it is normal or abnormal.

**EXISTING METHOD**

The Existing system describes the semi-supervised of segmentation. The technique is used to interactive multi label segmentation for N dimensional images. It segments the areas which are more difficult to segment. The method is iterative, giving feedback to the user while the segmentation is computed.

**Disadvantages/Problem Statement:**

* More Time and Space.
* It has low accuracy.

**Proposed System:**

We are providing new methods of CT or MRI images of pancreatic ductal adenocarcinoma of a patient. The images are pre processed and further segmented for the required feature. Then Region of interest (ROI) segmentations is applied in order to identify the affected portion of cancer. The binary regions constructed by simple thresholding are deformed by texture and noise. Morphological image processing seeks to achieve the goals of eliminating these defects by accounting for image shape and structure. Then morphological operation algorithm using for segment the cancer cells detected. It is used for pixel values in this image required for segmenting adjusts itself according to the segmented area and position. Finally cnn applied through a deep convolution neural networks then result image will compared with the dataset images and it will display whether it is normal or abnormal.

**Advantages/Solution Statement:**

* Improvising the algorithm.
* To reduce feature extraction and classification.

**Module Description:**

**Module 1: Preprocessing**

The images which are collected are subjected to pre- processing. In Pre-processing stage basic steps are image resizing and applying Median filters for a perfect input clear image for easy identification of an image. Pre-processed images will be segmented digitally into various pixels. We do this segmentation for an image is to modify its representation to have more clarity to analyze the images.

**Module 2: Segmentation and feature extraction**

In the segmentation process, we can implement the effective threshold operator which labels the pixels of an image. Here we identify the affected portion of cancer in Images for easy detection of pancreatic ductal adenocarcinoma prediction.

**Module 3: Convolution neural network**

This module is used to establish the deep convolutional neural network concept for training the image and testing the image with the help of weight estimating classifier. The result image will compared with the dataset images and it will display whether it is normal or abnormal.

**Architecture diagram**

 

 Input image preprocessing segmentation



 Normal / abnormal training & testing

**System Requirements:**

**SOFTWARE REQUIREMENTS:**

MATLAB R2018a

**HARDWARE REQUIREMENTS:**

PC, Pentium 4 processor, 2 3.06 GB RAM, CPU GHz