A Comprehensive Review on Analysis of Cervical Cancer Diagnostic Techniques

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Abstract
Cervical cancer (CC) in women among the ages of 18 and 60. Cervical cancer refers to the unrestrainedexpansion of abnormal cells in the cervix area. It is very problematic to detect and classify the CC. Because it occurs without any symptoms in the early stages. However, early detection of CC/pre-cancer can improve patient survival rates. This disease was diagnosed, using both manual and automatic detection methods. Compared with manual detection approachessuch as the pap-smear test and the LCB test, classification of normal, precancerous and cancer cells using a Convolutional Neural Network (which combines feature classification) with Deep Learning algorithms produces more accurate results. This paper examines the application of various algorithms indiagnosis of CC as well as their accuracy and performance measurement.

Keywords: Classification, CNN,Cervical Cancer, Deep Learning,Screening Methods.

1. Introduction

World Health Organization (WHO) reported that CC is the 4th malignant cancer midst women in emergent countries. Uncontrolled growth of cells is termed as cancer, which can easily spread to nearby cells and organs. Cervix region is the lower part in uterus of female and cancer which originates from cervix region is known as CC. It is a slowly growing cancer without any symptoms at an initial stage. Vaginal bleeding and pelvic pain are the most common symptoms realized by CC patients. It is a slowly growing cancer .Before getting into cancer ,abnormal cells appear in cervix region. This stage is known as dysplasia. Abnormal cells turns into cancer and spread to nearby cells and regions.

CC can be diagnosed using manual screening approaches. Recent advancements in bio-medical field enables automatic detection and classification of CC and also increases survival rate of patients. Early detection of CC can be treated and cured .This is the only way of reducing mortality rate[1].

According to GLOBOCAN 2018 report, assessed the five types of common cancer in Indian females as lung , cervix , ovary, breast and oral cavity cancers. Breast cancer is leading CC in the second position. GLOBOCAN 2018 report states that the new cancer incidence cases per