A Review of Various Methods of Predicting Cervical Cancer

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Abstract

Cervical Cancer is one the most threatening diseases of Indian women. According to ICMR – an institute for Cancer Prevention and Research, nearly 1, 22,844 women are affected by cervical cancer and out of that nearly 67,477 women were become victims. This malignant disease will develop in the cells of the cervix or on the neck of the uterus. But, this can be prevented and /or cured if it is diagnosed in the early stage. Due to the complexity of the cell nature, still it is a continuous problem for automating this procedure. Various algorithms and methodologies were proposed for segmenting and classifying cancer cells at the early stage into different categories. Different algorithms and methodologies are proposed by various researchers under various situations. In this paper, various research papers related to early prediction of cervical cancer are analyzed. This paper discusses Machine Learning algorithms like GLCM (Gray Level Co-occurrence Matrix), SVM (Support Vector Machines), k-NN (k-Nearest Neighbours CNNs (Convolutional Neural Networks), MARS (Multivariate Adaptive Regression Splines), PNNs (Probabilistic Neural Networks), spatial fuzzy clustering algorithms, Genetic Algorithm, C5.0, RFT (Random Forest Trees), Hierarchical clustering algorithm for feature extraction and CART
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(Classification and Regression Trees), cell segmentation and classification. The proposed work compares the merits and demerits of different algorithms which obtain good accuracy in classifying cervical cancer cells using machine learning algorithms.

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