Breast Cancer and Cervical Cancer Detection Using Machine Learning

P. Bhuvaneswari[1], D. Divya Dharshini[2], M. Srimathi[3], G. Sneka[4], P. Dinesh Kumar[5]

Assistant Professor, Department of Information Technology[1]
Students, Department of Information Technology[2,3,4,5]
Hindusthan Institute of Technology, Coimbatore, India

Abstract: *Women are seriously threatened by breast cancer and cervical cancer with high morbidity and mortality. The lack of robust prognosis models results in difficulty for doctors to prepare a treatment plan that may prolong patient survival time. Hence, the requirement of time is to develop the technique which gives minimum error to increase accuracy. Four algorithms SVM, Logistic Regression, Random Forest and KNN which predict the breast cancer outcome have been compared in the paper using different datasets. All experiments are executed within a simulation environment and conducted in JUPYTER platform. Aim of research categorises in three domains. First domain is prediction of cancer before diagnosis, second domain is prediction of diagnosis and treatment and third domain focuses on outcome during treatment. The proposed work can be used to predict the outcome of different technique and suitable technique can be used depending upon requirement. This research is carried out to predict the accuracy. The future research can be carried out to predict the other different parameters and breast cancer and cervical cancer research can be categorises on basis of other parameters.*

Keywords: Breast Cancer, Cervical cancer, machine learning, feature selection, classification, prediction, KNN, Random Forest, ROC, etc.
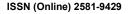
REFERENCES

[1]. Shwetha K, Chaithra D , Sindhu .S "breast cancer and cervical cancer detection using deep learning technique",2018.

[2]. H. Abdel-Razeq, A. Mansour, and D. Jaddan, "Breast Cancer Care in Jordan," JCO global oncology, vol. 6, pp. 260-268, 2020.

[3]. P. J. García-Laencina, J. L. Sancho-Gómez, and A. R. Figueiras-Vidal,Supervised deep learning embeddings for the prediction of cervical cancer diagnosis,2015 pp.1-8

[4]. K. Akyol, "A Study on Test Variable Selection and Balanced Data for Cervical Cancer Disease," Inf. Eng. Electron. Bus., vol. 5, pp. 1–7,2018.

[5]. F. S. Ahadi, M. R. Desai, C. Lei, Y. Li, and R. Jia, "Feature-Based classification and diagnosis of breast cancer using fuzzy inference system," in 2017 IEEE International Conference on Information and Automation (ICIA), 2017, pp. 517-522.

[6]. Gogate U. et al., 2018 implemented healthcare monitoring system for illness of cardiac patients [3]. On the cervical cancer, Snijders (P. J. F et al., 2006)

BIOGRAPHY

P. Bhuvaneswari is Assistant Professor in the Department of Information Technology at Hindusthan Institute of Technology at Hindusthan Institute Of Technology, Coimbatore. She Completed master degree Software engineering Sri Krishna College Of Engineering and Technology Coimbatore. She Completed her B.Tech IT Vivekananda Institute Of Engineering and Technology for Women,Nammakal in (2011).

Divya Dharshini D is a Final year student in the Department of Information Technology at Hindusthan Institute of Technolog.Her area of interest is in Machine Learning.

Srimathi M is a Final year student in the Department of Information Technology at Hindusthan Institute of Technolog.Her area of interest is in Block chain.

Sneka G is a Final year student in the Department of Information Technology at Hindusthan Institute of Technolog.Her area of interest is in Machine learning.

Dinesh Kumar P is a Final year student in the Department of Information Technology at Hindusthan Institute of Technolog. His area of interest is in Machine learning.