Breast Cancer Detection using SVM Classifier with Grid Search Technique

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Abstract

Medical science is a boon to mankind. The technological advancement has widened the scope of curing and fighting with the diseases. It is essential to diagnose the symptoms and identify the disease timely. It has been observed that breast cancer cases are the most reported cases among women around the world and the second most common cancer overall. According to [1] World Cancer Research Fund International, London has shared that there were over 2 million new cases in 2018. In the year 2012, the BCRF (Breast Cancer Research Foundation) has reported nearly 1.7 million new breast cancer cases [2]. With the help of technology, medical science is trying to predict cancer; which can significantly increase the chances of survival. In this research paper, the authors have illustrated the model to predict breast cancer with Support Vector Machine using Grid search. First Support vector machine model is tested without a grid search. Later, Support vector machine model is tested with grid search. Finally, the comparative analysis was done and based on the result; a new model was built. The new model designed is based on grid search on data before fitting it for prediction, which enhances the outcome.
References


Index Terms

Computer Science

Artificial Intelligence

Keywords

Machine learning; support vector machine; grid search; cancer prediction