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(57) Abstract :
Cancer is a disease that develops slowly and often does not cause any symptoms until it has advanced significantly. Breast cancer is the most frequent kind of cancer among females, and the number of women diagnosed with this disease has been rising in recent years. Since people in the West have wildly different eating habits and stress levels, it is more common there than in other parts of the globe. Multiple machine learning models were used to identify risk factors for illness progression, categorize conditions as benign or malignant, and provide prognoses about the future course of the disease. Machine learning models may be used in a similar way to discover and categorize prospective breast cancer treatments. This computer method allows for the elimination of unnecessary experimental expenses during pre-clinical trials and the identification of a select number of promising medications from a pool of millions. Depending on the features and characteristics used in the analysis, the outcome might vary widely. The feature set that characterizes the compound's physicochemical, lipophilicity, water-solubility, pharmacokinetics, and drug-like qualities is used to make the drug prediction. In this study, we present a novel multistage feature selection using a pipelined technique to improve the medication prediction for breast cancer. The importance of feature selection and its bearing on the expected outcome is further explored in this research. Compared to other supervised machine learning models, the multilayer perceptron model had the highest accuracy at 94.7%.

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