

Main objective was to make decisions on the best wine quality with reference to different features/variables. This work was done by using existing models such as linear regression, Decision Trees, Random Forest, Support Vector Machines (SVM), k-Nearest Neighbors (k-NN), Neural Networks to analyze the independent variables (fixed acidity, volatile acidity, citric acid, residual sugar, chlorides, free sulfur dioxide, total sulfur dioxide, density, pH, sulphates, alcohol) with in predicting the dependent variable (quality). BY cerating a model to predict the quality of red wine by analyzing its physicochemical attributes. It utilized various machine learning algorithms to make predictions although fewer samples posed difficulty while predicting quality. The training sets in this work was preprocessed by converting to classified to predict the feature that could enhance better quality of wine. The result was Random forest model turns out to be best for classification which predicted the most accurate for wine quality. This model's accuracy can further be enhanced by increasing the alcohol level and decreasing the volatile acidity and chlorides.