

Title: The Comparison of Machine Learning Algorithms to Find the Career Path by Bloom's Taxonomy Evaluation

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Abstract: This research paper aims to compare various machine learning algorithms to identify the best career paths for individuals based on Bloom's taxonomy evaluation. The study uses data from a sample of individuals to train and test the models and evaluates their efficiency based on accuracy rate, precision, recall, and $F1$ -score metrics. The results of the study show that certain machine learning algorithms perform better than others in predicting career paths based on Bloom's taxonomy evaluation. These findings have implications for career counseling and guidance and may help individuals make informed decisions about their career paths based on their skills, interests, and aptitudes. There are four machine learning models—logistic regression classifier, decision tree classifier, random forest classifier, and K -nearest neighbors' classifier—which are used to make the comparison of the results. Among the four applied machine learning classifiers (MLCs), random forest beat the other classifiers with an accuracy of 87.77%.

Keywords: Bio-based textile dyes Natural dye classification Sustainable dyeing methods Sonication and plasma treatment Mordants and bio-mordants Color fastness improvement

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