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Employee Efficiency Predictor

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Abstract

In the modern world, employee's job satisfaction and the mental health problems are becoming one of the major complications. A common factor which makes the said discomfort is the issues in manual performance and productivity calculations. This problem causes an increase in attrition rate and a reduce in turnover within the organizations. To overcome such issues, companies should implement a proper and accurate performance evaluation mechanism.

The Employee Efficiency Predictor is a system which can eliminate the issues faced by the companies. It is a system which can provide an accurate performance score and salary hike percentage to help the human resource department of a company to make decisions on promotions and increments. The system uses Machine Learning technologies where past data of the employees are trained into models which provides the output as prediction based on several criteria. Two models were created for predicting performance score and percentage salary hike.

The results of this research project have been analyzed and concluded based on the testing and evaluation feedback received from the domain experts in the industry. The testing process on the models were carried out separately and the performance score model achieved a R Squared score of 0.9805 and the percentage salary hike model achieved an R squad value of 0.9766 explaining that each model's performance and the accuracy is aver 95%. The design, implementation and other technical methodologies used throughout the system and model selection algorithm are well suited to the requirements and provided the flexibility to build the system according to the industry machine learning standards. A platform like the employee efficiency predictor is unique and offers the privilege of successfully measuring the efficiency of an employee and thus helping in making fair decisions of promotions and salary hikes. The interaction with the user is supported through a friendly user interface and easily navigable software.

Keywords: Machine Learning, Decision Tree Regressor, Performance Score, Percentage Salary Hike, Predictions