Prediction of Gear Pitting Severity by Using Naive Bayes Machine Learning Algorithm

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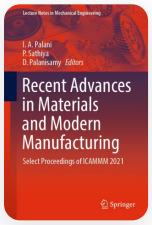

Recent Advances in Materials and Modern Manufacturing

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Abstract

The application of the machine learning algorithm in the area of gearbox condition monitoring is miserable. If one has to take the condition monitoring field to the next level then new approaches by using the machine learning algorithm and conventional neural network should be formulated. In this research article, the Naive Bayes machine learning algorithm has been implemented to predict the severity of the gear pitting defect. The performance of the algorithm is evaluated based on the accuracy score and confusion matrix. This algorithm has proved that the severity of defect can be classified based on

the gear noise level. The noise measurement was done by using a free-field microphone. The model prepared is showing good accuracy.

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