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## (57) Abstract :

This abstract presents a study on predicting machine failure status using machine learning techniques. With the increasing complexity of industrial systems, early detection of machinery failures is crucial for maintaining operational efficiency and minimizing downtime. In this research, various machine learning algorithms are employed to analyse historical sensor data and identify patterns indicative of impending failures. The proposed approach demonstrates significant potential in accurately predicting machine failures, thus enabling proactive maintenance strategies. Experimental results showcase the effectiveness of the model in achieving high accuracy and precision in predicting failure conditions across diverse industrial settings. This work contributes to the field of predictive maintenance by harnessing the power of machine learning to enhance operational reliability and optimize maintenance schedules.

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