

Predictive Maintenance Model Based on Fusion of Time Series and Supervised Learning Methods

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Abstract

Predictive maintenance, one of the important topics in industrial data analysis, mainly focuses on predicting when the machine or device will be broken or malfunctioned based on the traceability of sensor data collected from machines or devices. In the previous research works, time-series data analysis of the health status of the machine under fixed maintenance mode or fixed recession cycle is studied. In this research, the data fusion model is proposed to improve the overall accuracy through the combination of various-data driven technologies with the time series prediction method. The experimental result based on hydraulic system condition monitoring data shows that the proposed fusion model can provide better maintenance decision making on the machine/device maintenance plan based on the relatively small or data with incomplete maintenance cycle.

Keywords (12 font)

Predictive Maintenance, Time Series Forecasting, Supervised learning and Data fusion model.

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