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SHORT-TERM PATENT SPECIFICATION
短期專利說明書

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[54] SYSTEM AND METHOD OF DATA-DRIVEN DEEP LEARNING MODELS FOR DETECTING ANOMALIES IN A STEEL WIRE ROPE

用於檢測鋼絲繩異常的數據驅動深度學習模型的系統及方法

[57] The present invention teaches a data-driven system (10) and method using deep learning models for detecting anomalies in a steel wire rope (SWR) (20) for elevators comprises: a multi-channel data pre-processing module (22); a warning layer (24) further comprises a binary classifier (33) and an anomaly indicator (37); a distinguishing layer further comprises a multi-class classifier (35), wherein the binary classifier (33) detects anomalies along a targeted SWR at a position and the multi-class classifier (35) identifies a known defect and warns an unknown defect on the targeted SWR; and a feedback module (28) configured to record and feed the anomalies detected back into the warning layer (24) and the distinguishing layer (26) for parameters updates and re-training and its method thereof.

本發明教導了一種使用深度學習模型檢測電梯鋼絲繩(20)異常的數據驅動系統(10)及方法,包括:多通道數據預處理模塊(22);警告層(24)進一步包括二元分類器(33)和異常指示器(37);區分層進一步包括多類分類器(35),其中二元分類器(33)檢測

沿目標鋼絲繩的異常及多類分類器(35)識別目標鋼絲繩的已知缺陷並警告未知缺陷；以及反饋模塊(28)，被配置為記錄檢測到的異常並其反饋給警告層(24)及識別層(26)中以進行參數更新和再訓練及其方法。