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Patent Search

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Abstract:

Structural health monitoring (SHM) provides a wealth of useful data regarding the condition of the evaluated structure through the process of damage diagnosis. The goal is to ascertain the status of damage by analysis of sensor data, and then to distinguish between damaged and unharmed conditions. It has been attempted to us machine learning approaches to extract features or knowledge from vibration data, however these methods require training on the elements influencing the structur study, we offer a new method for detecting structural damage utilising a combination of convolutional neural networks and recurrent neural networks. In order to lea term historical dependency present in time series data, a recurrent neural network is trained alongside a convolutional neural network to extract deep features. Whe to using deep features alone, the discrimination capacity of this method by combining two types of features is greatly improved. The time series is then classified by t network into two groups, undamaged and damaged.

Complete Specification

Description:Structural health monitoring (SHM) provides a wealth of useful data regarding the condition of the evaluated structure through the process of damage diagnosis. The process's goal is to ascertain the status of damage by analysis of sensor data, and then to distinguish between damaged and unharmed conditions. I been attempted to use several machine learning approaches to extract features or knowledge from vibration data, however these methods require training on the elements influencing the structure. In this study, we offer a new method for detecting structural damage utilising a combination of convolutional neural networks a recurrent neural networks. In order to learn the long-term historical dependency present in time series data, a recurrent neural network is trained alongside a convolutional neural network to extract deep features. When compared to using deep features alone, the discrimination capacity of this method by combining two features is greatly improved. The time series is then classified by the neural network into two groups, undamaged and damaged. , C , C , Claims:[26] A feeder for sequentially transporting components along a path that runs via an inspection module; and a system for examining and classifying weapons, ordnance, or other pr parts.

[27] The inspection module has an output guide for accepting a component after it has been delivered to the inspection module and an input guide for sending a p the inspection module.

[28] A physical space between the inspection module's input guide and output guide that, when a component passes through it, allows at least momentary visual a the part's side surfaces.

[29] A lighting setup that illuminates the part's unhindered side surfaces as it moves across the space between the input guide and output guide.

[30] Several imaging detectors, each of which has a field of view that encompasses a part's illuminated, unobstructed side surfaces, allowing the imaging detectors t

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