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Fusion based En-FEC Transfer Learning Approach for Automobile Parts Recognition System

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Abstract

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The artificially supervised classification of real world entities have gained a phenomenal significance in recent year of computational advancements. An intelligent classification model focuses on rendering accurate outcomes vide the

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Abstract	Abstract:
Document Sections	The artificially supervised classification of real world entities have gained a phenomenal significance in recent year of computational advancements. An intelligent classification model focuses on rendering accurate outcomes vide the implicated paradigms with respect to the subjected data employed to train the classifier. This paper proposes a novel deep learning approach to classify the various parts of any operational engine such as crank shafts, rock-arms, distributor, air duct, asseccorybell etc. deployed in automobiles. The proposed architecture distinctively utilizes convolution neural networks for this typical classification problem and altogether constructs a robust transfer learning paradigm to render the correct class label against the validation and test images as the conclusive result of the classification. The proposed methodology poses in such a way that it can qualitatively classify and henceforth give the corresponding class label of the machinery/engine part under consideration. This computationally intelligent architecture requires the user to feed the image of the engine part to the model in order to achieve the requisite responses of classification. The main contribution of the proposed method is the development of a robust algorithm that can exhibit pronounced results without training the entire ConvNet architecture from scratch, thereby enabling the proposed paradigm to be deployable in application instances wherein limited labeled training data is available.
I. Introduction	
II. Literature Review	
III. Methodology	
IV. Experimental Results	
V. Conclusion	
Authors	
Figures	
References	Published in: 2018 IEEE Symposium Series on Computational Intelligence (SSCI)
Citations	Date of Conference: 18-21 November 2018 INSPEC Accession Number: 18417354
Keywords	Date Added to IEEE Xplore: 31 January 2019 DOI: 10.1109/SSCI.2018.8628789
Metrics	ISBN Information: Publisher: IEEE Conference Location: Bangalore, India

I. Introduction

The object recognition is a branch in the domain of computer vision applications which deals with the object identification for any given image. As humans, we can identify several objects in an image with a little effort, however on the contrary it requires a

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