cases	doc_1	doc_2	decision	id
			DUPLICATES	160

doc_1

authors	• Vahdat Abdelzad • Krzysztof Czarnecki • Rick Salay • Taylor Denounden • Sachin Vernekar • Buu Phan
title	Detecting Out-of-Distribution Inputs in Deep Neural Networks Using an Early-Layer Output
publication_date	2019-10-23 00:00:00
source	SupportedSources.OPENALEX
journal	arXiv (Cornell University)
volume	
doi	None
urls	• https://openalex.org/W2981902149
id	id5296417443194005034
abstract	
versions	

doc_2

authors	• Taylor Denounden • Krzysztof Czarnecki • Rick Salay • Sachin Vernekar • Vahdat Abdelzad • Buu Phan
title	Detecting Out-of-Distribution Inputs in Deep Neural Networks Using an Early-Layer Output
publication_date	2019-10-23 00:00:00
source	SupportedSources.PAPERS_WITH_CODE
journal	
volume	
doi	
urls	• https://arxiv.org/pdf/1910.10307v1.pdf • https://github.com/gietema/ood-early-layer-detection
id	id6675282449283959980
abstract	Deep neural networks achieve superior performance in challenging tasks such as image classification. However, deep classifiers tend to incorrectly classify out-of-distribution (OOD) inputs, which are inputs that do not belong to the classifier training distribution. Several approaches have been proposed to detect OOD inputs, but the detection task is still an ongoing challenge. In this paper, we propose a new OOD detection approach that can be easily applied to an existing classifier and does not need to have access to OOD samples. The detector is a one-class classifier trained on the output of an early layer of the original classifier fed with its original training set. We apply our approach to several low- and high-dimensional datasets and compare it to the state-of-the-art detection approaches. Our approach achieves substantially better results over multiple metrics.
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