

cases	doc_1		doc_2		decision	id
	authors	<ul style="list-style-type: none">Thomas M. Boudreaux			NOT DUPLICATES	181
	title	The applications of deep neural networks to sdBV classification	authors	<ul style="list-style-type: none">Boudreaux, Thomas M.		
	publication_date	2017-11-30 14:30:17+00:00	title	The applications of deep neural networks to sdBV classification		
	source	SupportedSources.ARXIV	publication_date	2017-12-01 00:00:00		
	journal	None	source	SupportedSources.CORE		
	volume		journal	None		
	doi		volume			
	urls	<ul style="list-style-type: none">http://arxiv.org/pdf/1711.11421v2http://arxiv.org/abs/1711.11421v2http://arxiv.org/pdf/1711.11421v2	doi	10.1515/astro-d-17-0450		
	id	id-2751741996647667516	urls	<ul style="list-style-type: none">http://arxiv.org/abs/1711.11421		
	abstract	With several new large-scale surveys on the horizon, including LSST, TESS, ZTF, and Evryscope, faster and more accurate analysis methods will be required to adequately process the enormous amount of data produced. Deep learning, used in industry for years now, allows for advanced feature detection in minimally prepared datasets at very high speeds; however, despite the advantages of this method, its application to astrophysics has not yet been extensively explored. This dearth may be due to a lack of training data available to researchers. Here we generate synthetic data loosely mimicking the properties of acoustic mode pulsating stars and we show that two separate paradigms of deep learning - the Artificial Neural Network And the Convolutional Neural Network - can both be used to classify this synthetic data effectively. And that additionally this classification can be performed at relatively high levels of accuracy with minimal time spent adjusting network hyperparameters.	id	id-3020380540617216027		
	versions		abstract	With several new large-scale surveys on the horizon, including LSST, TESS, ZTF, and Evryscope, faster and more accurate analysis methods will be required to adequately process the enormous amount of data produced. Deep learning, used in industry for years now, allows for advanced feature detection in minimally prepared datasets at very high speeds; however, despite the advantages of this method, its application to astrophysics has not yet been extensively explored. This dearth may be due to a lack of training data available to researchers. Here we generate synthetic data loosely mimicking the properties of acoustic mode pulsating stars and we show that two separate paradigms of deep learning - the Artificial Neural Network And the Convolutional Neural Network - can both be used to classify this synthetic data effectively. And that additionally this classification can be performed at relatively high levels of accuracy with minimal time spent adjusting network hyperparameters.Comment: 12 pages, 10 figures, originally presented at sdOB		
			versions			