cases	doc_1		doc_2		decision	id
	authors	• Leah Bar • Nir Sochen	**authors**	• L. Bar • N. Sochen	DUPLICATES	82
	title	Unsupervised Deep Learning Algorithm for PDE-based Forward and Inverse Problems	**title**	Unsupervised Deep Learning Algorithm for PDE-based Forward and Inverse Problems		
	publication_date	2019-04-10 20:01:48+00:00	**publication_date**	2019-04-10 00:00:00		
	source	SupportedSources.ARXIV	**source**	SupportedSources.SEMANTIC_SCHOLAR		
	journal	None	**journal**	ArXiv		
	volume		**volume**	abs/1904.05417		
	doi		**doi**			
	urls	• http://arxiv.org/pdf/1904.05417v1 • http://arxiv.org/abs/1904.05417v1 • http://arxiv.org/pdf/1904.05417v1	**urls**	• https://www.semanticscholar.org/paper/e556d31f3bbd23cb04ba561f5ed99cccc9975754		
	id	id-7007555769374576795	**id**	id8657734570015305681		
	abstract	We propose a neural network-based algorithm for solving forward and inverse problems for partial differential equations in unsupervised fashion. The solution is approximated by a deep neural network which is the minimizer of a cost function, and satisfies the PDE, boundary conditions, and additional regularizations. The method is mesh free and can be easily applied to an arbitrary regular domain. We focus on 2D second order elliptical system with non-constant coefficients, with application to Electrical Impedance Tomography.	**abstract**	We propose a neural network-based algorithm for solving forward and inverse problems for partial differential equations in unsupervised fashion. The solution is approximated by a deep neural network which is the minimizer of a cost function, and satisfies the PDE, boundary conditions, and additional regularizations. The method is mesh free and can be easily applied to an arbitrary regular domain. We focus on 2D second order elliptical system with non-constant coefficients, with application to Electrical Impedance Tomography.		
	versions		**versions**			