cases	doc_1		doc_2		decision	id
	authors	• Wansheng Wang • Jie Wang • Jinping Li • Feifei Gao • Yida Fu	**authors**	• Wansheng Wang • Jie Wang • Jinping Li • Feifei Gao • Yi Fu	DUPLICATES	153
	title	Deep learning numerical methods for high-dimensional fully nonlinear PIDEs and coupled FBSDEs with jumps	**title**	Deep learning numerical methods for high-dimensional fully nonlinear PIDEs and coupled FBSDEs with jumps		
	publication_date	2023-01-30 00:00:00	**publication_date**	2023-01-30 13:55:42+00:00		
	source	SupportedSources.SEMANTIC_SCHOLAR	**source**	SupportedSources.ARXIV		
	journal	ArXiv	**journal**	None		
	volume	abs/2301.12895	**volume**			
	doi	10.48550/arXiv.2301.12895	**doi**			
	urls	• https://www.semanticscholar.org/paper/a7c38161155e58f14ad90a2ae9ed2bd9c4851fb4	**urls**	• http://arxiv.org/pdf/2301.12895v1 • http://arxiv.org/abs/2301.12895v1 • http://arxiv.org/pdf/2301.12895v1		
	id	id-8435195907001938844	**id**	id-5425264148316320610		
	abstract	. We propose a deep learning algorithm for solving high-dimensional parabolic integro- diï¬€erential equations (PIDEs) and high-dimensional forward-backward stochastic diï¬€erential equations with jumps (FBSDEJs), where the jump-diï¬€usion process are derived by a Brownian motion and an independent compensated Poisson random measure. In this novel algorithm, a pair of deep neural networks for the approximations of the gradient and the integral kernel is introduced in a crucial way based on deep FBSDE method. To derive the error estimates for this deep learning algorithm, the convergence of Markovian iteration, the error bound of Euler time discretization, and the simulation error of deep learning algorithm are investigated. Two numerical examples are provided to show the eï¬*f*ciency of this proposed algorithm.	**abstract**	We propose a deep learning algorithm for solving high-dimensional parabolic integro-differential equations (PIDEs) and high-dimensional forward-backward stochastic differential equations with jumps (FBSDEJs), where the jump-diffusion process are derived by a Brownian motion and an independent compensated Poisson random measure. In this novel algorithm, a pair of deep neural networks for the approximations of the gradient and the integral kernel is introduced in a crucial way based on deep FBSDE method. To derive the error estimates for this deep learning algorithm, the convergence of Markovian iteration, the error bound of Euler time discretization, and the simulation error of deep learning algorithm are investigated. Two numerical examples are provided to show the efficiency of this proposed algorithm.		
	versions		**versions**			