Deep learning-based reduced order models in cardiac electrophysiology

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S2 Appendix.

DL-ROM neural network architecture. Here we report the configuration of the DL-ROM neural network used for our numerical tests. We employ a 12-layers DFNN equipped with 50 neurons per hidden layer and n neurons in the output layer, where n corresponds to the dimension of the reduced nonlinear trial manifold. The architectures of the encoder and decoder functions are instead reported in Table 1 and 2.

Layer	Input dimension	Output dimension	Kernel size	# of filters	Stride	Padding
1			[5, 5]	8	1	SAME
2			[5, 5]	16	2	SAME
3			[5, 5]	32	2	SAME
4			[5, 5]	64	2	SAME
5	N	256				
6	256	n				

Table 1. Attributes of convolutional and dense layers in the encoder $\mathbf{f}_n^E$.

Layer	Input dimension	Output dimension	Kernel size	# of filters	Stride	Padding
1	n	256				
2	256	N				
3			[5, 5]	64	2	SAME
4			[5, 5]	32	2	SAME
5			[5, 5]	16	2	SAME
6			[5, 5]	1	1	SAME

Table 2. Attributes of dense and transposed convolutional layers in the decoder $\mathbf{f}^D$.