Classification Based on Deep Neural Cellular Automata Model

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Abstract : Deep learning structure is a branch of machine learning science and greet achievement in research and applications. Cellular neural networks are regarded as array of nonlinear analog processors called cells connected in a way allowing parallel computations. The paper discusses how to use deep learning structure for representing neural cellular automata model. The proposed learning technique in cellular automata model will be examined from structure of deep learning. A deep automata neural cellular system modifies each neuron based on the behavior of the individual and its decision as a result of multi-level deep structure learning. The paper will present the architecture of the model and the results of simulation of approach are given. Results from the implementation enrich deep neural cellular automata system and shed a light on concept formulation of the model and the learning in it.
Keywords : cellular automata, neural cellular automata, deep learning, classification
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