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On neural network architecture based on concept lattices. (English) Zbl 1461.68185

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Summary: Selecting an appropriate network architecture is a crucial problem when looking for a solution based on a neural network. If the number of neurons in network is too high, then it is likely to overfit. Neural networks also suffer from poor interpretability of learning results. In this paper an approach to building neural networks based on concept lattices and on lattices coming from monotone Galois connections is proposed in attempt to overcome the mentioned difficulties.

For the entire collection see [[Zbl 1365.68009](#)].

MSC:

- 68T05 Learning and adaptive systems in artificial intelligence
- 06A15 Galois correspondences, closure operators (in relation to ordered sets)
- 06B99 Lattices
- 68T30 Knowledge representation
- 92B20 Neural networks for/in biological studies, artificial life and related topics

Keywords:

neural network architecture; formal concept analysis; optimal NN architecture; lattice-based NN

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