

MODULAR NEURAL NETWORKS SUBROUTINES FOR KNOWLEDGE EXTRACTION

A. Vahed Department of Computer Science, University of the Western Cape
and
I. Cloete Department of Computer Science, University of Stellenbosch

Abstract

Current research in modular neural networks (MNNs) have essentially two aims; to model systematic methods for constructing neural networks of high complexity and secondly, to provide building blocks for hybrid symbolic- and connectionist knowledge based implementations. The principal benefit of MNNs is that it combines the desirable features of different neural network architectures while compensating for their individual weaknesses. This paper reviews several models of modular neural networks and describes a method for constructing modular neural network subroutines that facilitate easier knowledge extraction. We explore this feature and further consider the generalization abilities of network subroutines as compared with conventional neural network architectures.