Flexible Beta Basis Function Neural Tree model of REGIM-Lab, Release Agreement

Introduction

Artificial Neural Network (ANN) is a growing interdisciplinary field which considers the systems as adaptive, distributed and mostly nonlinear, three of the elements found in the real applications. Several types of networks have been emerged, in the literature, for the multi-hidden layer networks and for single hidden layer networks. ANN mimics the learning behavior of biological systems by updating its parameters (including interconnection weights and in certain cases transfer function parameters).

The know-how accumulated, so, through advanced work in the process of ANN creating and learning showed that its reliability can be conditioned by the appropriate structure; the connection ways between the nodes; the chosen transfer function; and the learning algorithm. Many efforts have been provided in the literature to address these issues using evolutionary computation, and in such case the model is noted Evolving Artificial Neural Network (EANN).

In order to promote EANN’ research, the Tunisian Research Groups in Intelligent Machines of University of Sfax (REGIM-Lab of Sfax) will provide the Flexible Beta Basis Function Neural Tree system (FBBFNT) freely of charge to mainly neural networks’ researchers and to increase total of researches done to enhance EANN process. FBBFNT is available as Matlab code containing structure and learning process of this model as well as its experimentation with benchmarks of prediction and identification.

This model is used on [1, 2].

FBBFNT is a multi-hidden layer network based on the Beta function. It relies on the tree-based encoding method instead of the matrix-based encoding method used for the Beta basis function single-hidden layer network. Seen that the tree-based encoding method is more flexible and gives a more adjustable and modifiable architecture.

Release of the FBBFNT code

The FBBFNT code could be downloaded from own Google Drive provided after scanned the release agreement.

Content

The researcher(s) agrees to the following restrictions and requirements on The FBBFNT’ code:

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Send a scanned PDF file by emails to the FBBFNT’ code administrators
Email: souhir.bouaziz@ieee.org

**References:**
