Turkish Journal

of

Electrical Engineering & Computer Sciences

Keywords
Authors

elektrik@tubitak.gov.tr

Scientific Journals Home Page

Turkish Journal of Electrical Engineering & Computer Sciences

A New Approach Using Temporal Radial Basis Function in Chronological Series

Mustapha GUEZOURI
Signal Image Laboratory, Department of Electronics,
Faculty of Electrical Engineering,
University of Science and Technology,
P.O. Box 1505, El-M'Naouer, Oran, ALGERIA
e-mail: mguezouri@yahoo.fr

Abstract: In this paper, we present an extended form of Radial Basis Function network called Temporal-RBF (T-RBF) network. This extended network can be used in decision rules and classification in Spatio-Temporal domain applications, like speech recognition, economic fluctuations, seismic measurements and robotics applications. We found that such a network complies with relative ease to constraints such as capacity of universal approximation, sensibility of node, local generalisation in receptive field, etc. For an optimal solution based on a probabilistic approach with a minimum of complexity, we propose two TRBF models (1 and 2). Application to the problem of Mackey-Glass time series has revealed that TRBF models are very promising, compared to traditional networks.

Key Words: Temporal RBF, Classification, Spatio-Temporal, Speech recognition, Robotics applications

Turk. J. Elec. Eng. & Comp. Sci., **16**, (2008), 159-170.
Full text: pdf
Other articles published in the same issue: Turk. J. Elec. Eng. & Comp. Sci.,vol.16,iss.2.