عنوان مقاله:

A Novel Fuzzy Based Method for Heart Rate Variability Prediction

نویسندگان:

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خلاصه مقاله:

In this paper, a novel technique based on fuzzy method is presented for chaotic nonlinear time seriesprediction. Fuzzy approach with the gradient learning algorithm and methods constitutes the maincomponents of this method. The learning process in this method is similar to the conventional gradientdescent learning process, except that the input patterns and parameters are stored in memory as a look-uptable after upgrade. In the testing phase according to input patterns, the nearest neighbors and the weightscorresponding to the test pattern, similar patterns are extracted from memory. Eventually, by extractedweights and input pattern, prediction is performed. In order to validate the proposed method for predicting,the Mackey-Glass, Lorenz and biological Heart Rate Variability (HRV) time series is used. Finally, theresults of proposed method with the conventional methods of time-series prediction are also compared.The results demonstrate the capability of proposed method in chaotic time series predictio

کلمات کلیدی:

Fuzzy ApproachChaosNearest NeighborHeart Rate VariabilityPrediction

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