

عنوان مقاله:

A Numerical Approach Based on Neuro-Fuzzy Systems for Obtaining Functional Inverse

محل انتشار:

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خلاصه مقاله:

In this paper, a new and easy available numerical method is presented in calculation of functional inverse. As for ANFIS (Adaptive Network based Fuzzy Inference System) model is available without great difficulty in MATLAB software also due to important of obtaining functional inverse in wide range applications, we present ANFIS-based approach for the first time for obtaining inverse of mathematical functions. The proposed approach includes two main stages, in the first step; some limited points are sampled from desired function using Monte Carlo simulation and second step contains training of ANFIS system that input system is output points of function and ANFIS desired values are input values to function. One of notes in the proposed approach is calculation of inverse of time varying functions only with tuning of generated fuzzy model with the least square and the back propagation (BP) algorithms to form of hybrid learning algorithm which able into tracking of time varying functions. Experimental results over many .functions show superiority of the proposed method relative MATLAB software

کلمات کلیدی:

Functional inverse; Adaptive Network based Fuzzy Inference System; Monte Carlo method; Hybrid learning; MATLAB software

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