Abstract

In this paper, we presented the architecture and basic learning process underlying ANFIS (adaptive-network-based fuzzy inference system) which is a fuzzy inference system implemented in the framework of adaptive networks. Soft computing approaches including artificial neural networks and fuzzy inference have been used widely to model expert behavior. Using given input/output data values, the proposed ANFIS can construct mapping based on both human knowledge (in the form of fuzzy if-then rules) and hybrid learning algorithm. In modeling and simulation, the ANFIS strategy is employed to model nonlinear functions, to control one of the most important parameters of the induction machine and predict a chaotic time series, all yielding more effective, faster response or settling times.

References


Index Terms

Computer Science  Fuzzy Systems
Keywords

ANFIS, Fuzzy Logic, Takagi-Sugeno (T-S) Model, Learning Algorithm