A FUZZY ENGINEERING APPROACH FOR TIME-SERIES FORECASTING OF ELECTRIC-LOAD

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Abstract

A hybrid neural network-fully expert system is developed to forecast short-term electric load accurately. The fuzzy membership values of load and other weather variables are the inputs to the neural network and the output comprises the membership values of the predicted load. An adaptive fuzzy correction scheme is used to forecast the final load by using a fuzzy rule base and fuzzy inference mechanism. Extensive studies have been performed for all seasons, and some examples are presented in this paper, which include average, peak, and hourly load forecasts. (C) 1995 John Wiley and Sons, Inc.

References

1. BRACE MC.
   (1991), INT FORUM APPLICATIO.
2. CHEN CL.
3. ELSHARKAWI MA.
   (1991), INT FORUM APPLICATIO, P3.
4. HO KL.
5. KIM KH.
   (1993) 4TH P S EXP SYST APP, P164.
6. KWAN, H. K.; CAI, Y.
   A fuzzy neural network and its application to pattern recognition
7. LEE CC  
8. LEE KY.  
9. LOSKO B.  
   (1992) NEURAL NETWORKS FUZZ.
10. PAL SK.  
    (1986) FUZZY MATH APPROACH.
11. PARK DC.  
12. PENG TM.  
13. SRINIVASAN D.  
14. TORRES GL.  
    IFAC S POWER SYSTEM.
15. WANG LX.  
16. ZADEH LA
17. (1965) INFORM CONTR, V8, P338.

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