Fuzzy Forecasting Based on High-Order Fuzzy Time Series and Genetic Algorithms

Professor Shyi-Ming Chen
IEEE Fellow, IET Fellow, IFSA Fellow,
Department of Computer Science and Information Engineering,
National Taiwan University of Science and Technology,
Taipei, Taiwan
E-mail: smchen@mail.ntust.edu.tw

Abstract

In our daily life, we often use forecasting techniques to predict weather, earthquakes, stock, temperature, etc. Traditional forecasting methods cannot deal with forecasting problems whose historical data are linguistic values. In recent years, some researchers used fuzzy time series to handle forecasting problems. In this talk, we introduce two forecasting methods based on two factors high-order fuzzy time series and genetic algorithms. Firstly, we introduce a method to forecast the temperature and the TAIFEX (Taiwan Futures Exchange), based on the two-factors high-order fuzzy time series. Secondly, we introduce a method for temperature prediction and TAIFEX forecasting based on genetic algorithms and high-order fuzzy time series. Finally, we offer some research directions, which are worth pursuing for future research.