Implementation of Revised Heuristic Knowledge in Average-based Interval for Fuzzy Time Series Forecasting of Tuberculosis Cases in Sabah

ABSTRACT

Fuzzy time series forecasting is one method used to forecast in certain reality problems. The research on fuzzy time series forecasting has been increased due to its capability in dealing with vagueness and uncertainty. In this paper, we are dealing with implementation of revised heuristic knowledge to basic average-based interval and showing that these models forecast better than the basic one. We suggest three different lengths of interval, size 5, size 10 and size 20 to be used in comparing these models of average-based interval, average-based interval with implementation of heuristic knowledge and, average-based interval with implementation of revised heuristic knowledge. These models applied to forecast the number of tuberculosis cases reported monthly in Sabah starting from January 2012 until December 2019. A few numerical examples are shown as well. The performances of evaluations are shown by comparison on the values obtained by Mean Square error (MSE) and Root Mean Square Error (RMSE).