

Forecasting the Number of COVID-19 Cases in Indonesia Using Google Trends Data With Hybrid Artificial Neural Network and Multiple Regression Method

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Abstract

Covid-19 (Corona Virus Disease 2019) is categorized as a pandemic. The rapid growth statistics of covid cases certainly require special treatment from the government and all levels of society. Taking mitigation steps is needed by forecasting positive cases in this research. The data taken to make predictions on this case comes from Google Trends because of the very high popularity of keywords for the Covid-19 case on the Internet, making it easier to predict data. The method used in this research is Multiple Linear Regression (MLR), Artificial Neural Network (ANN), and Hybrid Artificial Neural Network with Multiple Linear Regression (MRL-ANN). In this study, the values of MAPE, MAE, RMSE were obtained respectively 12.92%, 887.68, and 1178.68 for the method of Hybrid Artificial Neural Network with Multiple Linear Regression, the value is smaller than the method of Artificial Neural Network with error rate of 13.51%, 910 and 1202.11, at Multiple Linear Regression error rates of 18.07%, 1342.64, and 1707.95. This shows the Hybrid method in the method in this research gives better performance.

Keywords: Covid-19, Forecasting, Hybrid, ANN, MLR, Google Trends
