FORECASTING `COVID-19' IN EAST JAVA WITH NEWTON GREGORY INTERPOLATION METHOD

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ABSTRACT

The Covid-19 is one of the viruses that has recently been endemic in almost all parts of the world, including Indonesia. The Covid-19 virus can be transmitted through direct contact with infected patients or droplets. Since the beginning of 2020, the Covid-19 outbreak has caused many deaths, so it has been designated as a global pandemic by WHO. The Covid-19 spread data used were collected through data scraping techniques with the Arduino IDE in the PHP programming language. The data taken is data exposed to Covid-19 in 36 cities/districts in East Java. The data is analyzed statistically and forecasted using the Newton Gregory Interpolation method in a forward direction. The forecasting data is analyzed using the Matlab programming language. To make it easier for people to take advantage of forecasting results, researchers develop mobile and desktop applications to describe forecasting results at the time specified by the user using the PHP HTML programming language, and Flutter. In the end, the forecasting results were tested to calculate the accuracy of forecasting using MAPE (Mean Absolute Percentage Error) and RMSE (Root Mean Squared Error) which met the standard error determined by the researcher.

Keywords: Covid-19, Forecasting, Newton Gregory Interpolation Method, Matlab, Flutter,PHP,HTML,Java