

UNIVERSITI TEKNOLOGI MARA



**FORECASTING THE SPREAD OF COVID-19 PANDEMIC IN
MALAYSIA**

**WAN MUHAMMAD QAWIEM BIN WAN SULAIMAN
NURATIKAH BINTI ROSLI
MIZA FILZA FARISA BINTI ISMAIL**

**BACHELOR OF SCIENCE (HONS.) STATISTICS
FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES**

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ABSTRACT

COVID-19 is rapidly expanding across the globe. Malaysia, as a Southeast Asian region, has also been affected by COVID-19. Since the COVID-19 outbreak first emerged in China at the end of 2019, Malaysia has taken precautionary measures to prevent it from entering the nation. However, since COVID-19 is more than certainly unstoppable, Malaysia eventually received the first case of it in early January 2020. Hence, this research claims to look at the number of COVID-19 daily new confirmed cases in Malaysia, analyze the best model for forecasting and forecast the number of COVID-19 daily new cases starting on 1 April 2021 and ahead. For this research, the number of daily confirmed new cases of COVID-19 in Malaysia from 15 March 2020 to 31 March 2021 was estimated and forecasts using the curve estimation models such as Holt's method, double exponential smoothing (DES) and the Box-Jenkins approach, ARIMA model. Besides, COVID-19 daily confirmed cases data retrieved from the Ministry of Health (MOH). The study's findings indicate that ARIMA(1,1,3) is the preferred model for forecasting since it has the smallest values of error measures for Root Mean Squared Error (RMSE), Mean Absolute Error (MAE) and Mean Absolute Percentage Error (MAPE) as compared to other models. In conclusion, subsequent studies would likely yield more discoveries and a more systematic approach to have better and accurate forecasting.

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