Table 3 presents the MAPE obtained in each model when comparing the test dataset with the predictions for the same dates.

TABLE III
PREDICTIVE MODELS' MAPE

Model	MAPE
SVR Poly	0.00171
SVR RBF	0.00254
LSTM	0.00173
SARIMA (MAPE)	0.00181
SARIMA (AIC)	0.00550
Exp. Smoothing	0.00316
Prophet	0.00403

IV. CONCLUSION

The comparative study of the presented predictive models suggests that the Support Vector Regression (SVR) model using a polynomial kernel is the best element to predict the Ecuadorian CPI one year ahead in the future. The MAPE obtained with this solution was 0.00171. As seen in Figures 7 and 8, it is good at predicting the trend rather than exact values. The model with the second-best MAPE was LSTM neural network, which obtained a mark of 0.00173. The predictions of this model, at least in its graphical representation, look realistic, with peaks and valleys, more like a real CPI should behave. In contrast, predictions with SVR using a polynomial (also RBF) tend to follow a smooth curve (Fig. 8). Considering that CPI can be used to estimate inflation, minimum wage, or the cost of living of a region, the results of this work can be used to calculate other relevant information for the Ecuadorian economy next year.

With the dataset used, other alternatives should be considered for future works. For example, the modification of a method or combination of two or more methods like the one proposed by Qin et al. to forecast China CPI based on EEMD and SVR method [15]. Another improvement could be extended for the grid to search through more possibilities of hyperparameters. Even better, optimize the search like the one proposed by Cao and Wu [16] for SVR forecasting, where the fruit fly optimization algorithm is used to search the best values of the hyperparameters automatically. New values are released every month, so the work of forecasting Ecuador's CPI is a rich source for further research.

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