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Covid-19 Outbreak Forecasting based on Machine Learning Models

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Abstract: One of the largest pandemic respiratory diseases in the world is the new coronavirus known as SARS-CoV-2 [1]. It has a high infection rate but a lower lethality rate. As per the worldometer site on 16 September 2021 in India, there are 33,380,438 COVID-19 cases, deaths are around 444,274, and people recovered are 32,590,504 in figures. However, USA has highest COVID-19 infected people with a value of approximately 42,504,484 and total death in figures 685,295. There are various vaccines [2] developed to halt the spread of COVID-19 like Pfizer-BioNTech, Moderna, Sputnik V, Covaxin, Covishield etc, but this virus is getting stronger in upcoming waves. This virus affects all age levels and infects animals too. Therefore, before it becomes difficult to stop the spread of COVID-19, we must properly predict the outbreak in any nation. The JHU CSSE COVID-19 Dataset [3] is used for this study, and we compare the accuracy of five different types of regression models i.e. Bayesian Ridge Regression, Polynomial Regression, Ridge Regression, Support Vector Regression, and Elastic Net algorithm. It has been found that Elastic Net outperforms among all models in terms of accuracy.

Keywords: COVID-19, Data Science, Data Analytics, Bayesian Ridge, Elastic Net, Machine Learning Algorithm

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