

Analysis and prediction of the impact of COVID-19 on the global economy

Abstract

COVID-19 has had a profound impact on the lives of each individual. However, for countries as a whole, the economy has taken the hardest hit. This case study aims to analyze the Gross Domestic Product (GDP) and employment data of countries worldwide during the COVID-19 pandemic using statistical tools to predict their GDP loss. Predictions were made using factors like sector-wise GDP loss and sector-wise employment loss by applying multiple linear regression. Each data variable was tested for its significance to the regression model performance, and those with insignificant contributions were removed. Later, the regression results from the remaining variables were analyzed and explained. Then, a neural network was trained over the selected variables' data to compare its prediction results against the linear model. The comparison gave an insight into whether the data was suitable for a linear model or a non-linear model. Finally, the best among the two was chosen based on the prediction error percentage.