Assessing the Effect of Traveling on COVID at the County Level Using Machine Learning

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Population mobility is correlated with Covid-19 transmission, making it an ideal indicator for forecasting future outbreaks. Additionally, given the proliferation of vaccines throughout the US population, vaccination status was also be considered in this study. Using these factors, the goal of this study is to develop an accurate machine learning model to predict future Covid-19 cases in the state of Mississippi, at the county level. Using county-level traveling data from the Bureau of Transportation Statistics and vaccination statistics from the Center for Disease Control, a time series machine learning model to predict changes in these factors was created by leveraging the Python package AutoTS. Then, the newly forecasted traveling and vaccine data were incorporated to predict future Covid-19 cases. Thus, forecasts for Covid-19 at the county level were be created, allowing for comparisons of model accuracy between counties, as well as forecasts of the state as a whole to be made.

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