

## COVID19 Predictor

**ABSTRACT:** Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases. The most recently discovered coronavirus is due to COVID-19. The number of new cases are increasing day by day around the world and has been declared a pandemic by the World Health Organisation (WHO). In light of this global health emergency, countries all over the world are facing unfamiliar situations and have little estimation of the no. of crucial medical resources (like hospital beds, medical equipment, etc) needed over the course of the next few weeks. In order to efficiently enforce measures and policies to control the spread of the virus, governments need to be dynamically updated about the severity of the virus. Additionally, governments also need to be informed of the efficacy of the enforced measures and policies to immediately take stock of the situation and propose swift alternatives, if necessary. Our goal is to build a machine learning tool to better equip governments in their endeavors to battle the virus. Using existing data on the number of Coronavirus cases in individual states in the US, our tool aims to analyze current trends in the number of cases for accurate projections of future cases in the following few weeks. The predictions will be based on the number of cases and deaths in each state and the population density. Our tool aims to aid governments in the following ways; First, to identify which states are vulnerable to a rapid spread of the virus and classify them as high risk [and other states as medium or low risk accordingly]. Second, for medical resources to be productively divided among states depending on our classification and to direct additional medical supplies to high risk states that need them the most, including crucial medical equipment in case of a shortage. Lastly, as an alert to the potency of government measures and policies based on the increase/decrease in the spread of infections and the rise/fall of deaths.