Chapter 1
COVID–19 Spread Prediction Using Prophet and Data Fusion Algorithm

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ABSTRACT

Today, technology plays a vital role in the healthcare industry. In the traditional way, physicians' minds were predicting the unknown disease based on their expertise and experience. Use of new technology like predictive analytics is transforming the healthcare industry. Predictive analytics in healthcare uses historical data (demographic information, person's past medical history and behaviors) to make predictions about the future. In this chapter, a predictive model is proposed to predict COVID-19 using prophet algorithm. A novel approach based on longitudinal data fusion approach will maintain temporal data from time to time. Sparse regularization regression uses data source and feature level to predict the spread of virus. The proposed model designed using longitudinal data fusion offers better clinical insights. Predictions will be very beneficial to government and healthcare groups to provoke suitable measures in controlling coronavirus. It is also beneficial to pharmaceutical companies to fabricate pills at a quicker rate.

INTRODUCTION

In the year 2019, another infection called corona (COVID-19) is spread widely in China and a colossal number of individuals were tainted (WHO, Coronavirus disease 2019 (COVID-19) Situation Report – 35., 2020) . First case noticed out of doors of China is Thailand on thirteen January 2020. It has now spread to in extra of 50 one-of-a-kind countries. The sector health organization WHO declared COVID-19 as a Public fitness Emergency of worldwide situation (PHEIC) on 30 January 2020. Starting on 20 February 76,000 cases are affirmed in view of COVID-19 (Hui, 2020). Presence of this sickness isn't anticipated in explicit networks, geological district timeframe. As this irresistible sickness is quick spreading and compromises the soundness of countless individuals prompt activity is needed to dodge the illness at local area level. Coronavirus is created by another kind of Covid which was named beforehand as 19-nCoV by the World Health Organization. Among the Covid family, COVID-19 is the seventh part along with MERSnCoV and SARS-nCoV that can communicate to people. The side effects are fever, hack, windedness and looseness of the bowels. In outrageous cases, COVID-19 can motive pneumonia or even passing. The brooding time of COVID-19 calls for fourteen days or extra. At the time of idle infection, the contamination might be extra regrettable. It may unfold beginning with one human the non to the following thru respiratory drops and close contact. An infodemic has long gone with the COVID-19eruptwhichise ssentiallyanabundance of facts regarding the scene. As a huge part of the statistics on hand to the overall populace isn't always precise, it receives severe for people to find out reliable assets and dependable direction after they need it.

As individuals were requesting precise data around 2019-nCoV, the World Health Organization and web- based media groups are cooperating to follow the legends and gossipy tidbits through its central command in Geneva (WHO, Novel Coronavirus (2019-nCoV): Strategic Preparedness and Response Plan., 2020). The association is routinely distinguishing the bits of gossip that spread everywhere on the spots that hurt the ordinary citizens' wellbeing like off base proof of fixes. Individuals everywhere in the world are anticipating an arrangement to alleviate the spread of Covid with the assistance of some displaying procedures. Prescient investigation in medical care is utilized for wellbeing evaluation. The estimation of prescient examination in medical services has been more than once accentuated in past data frameworks research. What is Predictive investigation? It predicts what will occur later on and is regularly treated as the utilization of "measurable procedures to break down the present and to anticipate the future conduct dependent on current realities of history (Oh, 2020). A portion of the forecast strategies are relapse expectation models, Markov chain models, Bayesian organizations and other AI techniques. The vast majority of the examination is identified with flu, HIC and SARS.

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