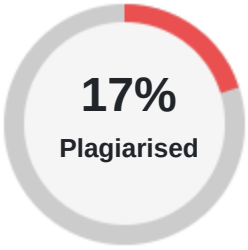
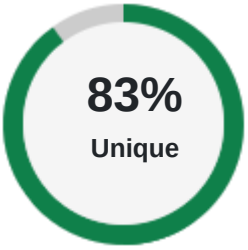
Plagiarism Detector

Date: 2020-06-06

PLAGIARISM SCAN REPORT





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PROJECT SUMMARY In this project, we've proposed methods for predicting Covid-19 in patients using machine learning techniques. The machine learning techniques that were used include statistic forecasting. We hope that our forecasts are going to be a great tool for governments and individuals towards making decisions and taking the acceptable actions to contain the spreading of the virus to the degree possible. No matter what one's beliefs are, we believe that their associated uncertainty can add should be an integral part of the decision-making process, especially in high-risk cases, but the numerous public health concerns, the dangers-imposed on global supply chains and therefore the economy as a whole is additionally considerable. Risk-average people can specialize in the worst-case-scenarios and act accordingly. Acting conservatively and deciding to discard any formal, statistical forecasts, still implies an underlying forecasting process, whether or not this process is formalized. OBJECTIVES OF PROJECT Our goal is to investigate the covid-19 data in programming languages Python using Prediction algorithms supported statistic forecasting; and the way the governments of various countries can use that prediction for taking effective decisions and future strategies. The outcomes should be in graphical form so anyone can easily understand the trends. Assuming that the information used is reliable and the future will still follow the past pattern of the disease, our forecasts suggest a continuing increase in the confirmed, death recovery COVID-19 cases with sizable associated uncertainty INPUT REQUIRED FOR PROJECT Input data is obtainable as csv files within the Johns Hopkins Github repository. Data is extracted from google sheets associated and made available on kaggle. The dataset has daily level information on the quantity of affected cases, deaths and recovery from 2019 novel coronavirus. Please note that this is often a time series data therefore the number of cases on any given day is the cumulative number. The information is available from 22 January , 2020. EXPECTED OUTPUT AND OUTCOME OF THE PROPOSAL Conclusion of our results is presented in Table below. These results were obtained by applying prophet statistic forecasting. The forecast method will allot each row a predicted value which it means "yhat". If you pass in historical dates, it'll provide an in-sample fit. The forecast object here could be a new dataframe that has a column "yhat" with the forecast, furthermore as columns for components and uncertainty intervals "yhat-lower, yhat-upper". Last five data of Recovered cases forecasting table Last five data of Confirmed cases forecasting table Last five data of Death cases forecasting table STATE OF ART ORIGIN OF THE PROPOSAL From the World Health Organization - On 31 December 2019, WHO was alerted to many cases of pneumonia in Wuhan City, Hubei Province of China. The virus failed to match the other known virus. This raised concern because when a pandemic is new, we don't know the way it affects people. So day-to-day information on the affected people can give some interesting insights when it's made available to the broader data science community. John Hopkins University has made a superb dashboard using the affected cases data. Data is extracted from the google sheets associated. SCIENTIFIC RATIONALE AND IMPORTANCE OF THE PROPOSED WORK Question arises What will be the worldwide impact of the novel coronavirus? Answering this question requires forecasting the spread of confirmed cases moreover as analysis of the number of deaths and recoveries. Forecasting however, requires sufficient historical data. At the same time, no forecasting is precise because the long run repeats itself hardly ever within the same course of action as the past.Moreover, forecasts are influenced by the reliability of the information, vested interests, and what variables are being predicted. Also, psychological factors play a giant role in how people perceive and react to the danger from the disease and thus the fear that it should affect them personally. This manifesto introduces an objective approach to predicting the continuation of the COVID-19 employing a straightforward, but powerful method to do so. The risks are removed from symmetric as underestimating its spread style of an outbreak and not doing enough to contain it's far more severe than overspending and being over careful when it'll not be needed. This proposal describes the timeline of a live forecasting exercise with massive potential implications for planning and decision making and provides objective forecasts for the confirmed, death and recovered cases of COVID-19.

METHODOLOGY The methodology of our project is based on Time Series Forecasting. Time Series is a group of data points that are collected at a constant interval of time. These are analyzed to determine the long term trend so as to forecast the future or perform some other form of analysis.There are many ways to implement time series, for this project we used FbProphet particularly. The code architecture is as follows: * Perform data scraping to get the raw data * Import necessary libraries(pandas, fbprophet, matplotlib, statsmodels) * Load in raw data * Pre-process data(feature scaling, time formatting) * Training data with FbProphet model * Predicting data for next 1 year(period=365) * Plotting forecasting with matplotlib and plotly Math of Prophet Prophet is a machine learning technique for forecasting time series data based on an additive(preservative) model where non linear trends are fit with yearly, weekly, and daily seasonality, plus holiday effects. The Prophet fits several linear and nonlinear functions of time as integrant. In its simplest form: y(t) = g(t) + s(t) + h(t) + e(t) where: g(t) - Trend models non-periodic changes(i.e. Growth over time) s(t) - Seasonality presents periodic changes(i.e. Weekly, monthly, yearly) h(t) - Ties in effects of holidays e(t) - Covers idiosyncratic changes not accommodated by the model In other words, the procedure's equation can be written as: y(t) = piecewise_trend(t)+ seasonality(t)+ holiday_effects(t)+ i.i.d. noise

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Mar 9, 2020 - This dataset has daily level information on the number of affected cases, deaths and recovery from 2019 novel coronavirus. Please note that ...

https://research.binus.ac.id/2020/03/data-source-recommendation-novel-coronavirus-2019-dataset/3/

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So daily level information on the affected people can give some interesting insights when it is made available to the broader data science community.

https://www.kaggle.com/sudalairajkumar/novel-corona-virus-2019-dataset

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The forecast object here is a new dataframe that includes a column yhat with the forecast, as well as columns for components and uncertainty intervals.

https://stackoverflow.com/tags/facebook-prophet/hot?filter=all

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Mar 31, 2020 - ... Answering this question requires accurate forecasting the spread of confirmed cases as well as analysis of the number of deaths and ...

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108716/

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Take 1 minute each day and help fight the spread of COVID-19 in your community * Report your health daily even if you feel well * Get a daily estimate of COVID ...

https://play.google.com/store/apps/details?id=com.joinzoe.covid_zoe

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Mar 31, 2020 - ... not be needed. This paper describes the timeline of a live forecasting exercise with massive potential implications for planning and decision making and provides objective forecasts for the confirmed cases of COVID-19. ... Fig 1. Daily cumulative confirmed, deaths and recovered cases from COVID-19.

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0231236

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1. Perform data scraping to get the raw data. 2. Import necessary libraries (numpy, sklearn, pandas). 3. Load in raw data (multiple files). 4. Preprocess data a.

http://www.cse.scu.edu/~mwang2/projects/Predict_MLBplayerPerformance_16w.pdf

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