DR. AMBEDKAR INSTITUTE OF TECHNOLOGY

(An Autonomous Institution, Affiliated to VTU, Belgaum and Aided by Government of Karnataka)

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Department of Information Science & Engineering

PROJECT SYNOPSIS
ON
" VIRTUAL ASSISTANT USING AI "

BACHELOR OF ENGINEERING

IN

INFORMATION SCIENCE AND ENGINEERING

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SUBMITTED BY

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ABSTRACT

Coronavirus disease (COVID-19) is an inflammation disease from a new virus. The disease causes respiratory ailment (like influenza) with manifestations, for example, cold, cough and fever, and in progressively serious cases, the problem in breathing. COVID-2019 has been perceived as a worldwide pandemic and a few examinations are being led utilizing different numerical models to anticipate the likely advancement of this pestilence. These numerical models dependent on different factors and investigations are dependent upon potential inclination. Governments and other legislative bodies rely on the machine learning predictive models and ideas to suggest new policies and assess the effectiveness of applied policies.

INTRODUCTION

Covid -19 cases across the globe as of May 24 is 167.1 million and the total deaths is 3.4 million.Coronavirus spread has conducted the society under the edge of loss in social lives. Additionally, it is crucial to investigate the transmission growth ahead and predict the future occurrences of the transmission. In concurrent, state-of-the-art mathematical models are chosen based on machine learning for a computational process to predict the spread of the virus.

Machine learning and deep learning strategies are performed using the python library to predict the total number of confirmed, recovered, and death cases extensively. This prediction will allow undertaking specific determinations based on transmission growth, such as expanding the lockdown phase, performing the sanitation plan, and providing daily support and supplies.

In order to predict Coronavirus disease (COIVD-19) ,Time Series Analysis using facebook prophet Model which is an open-source library developed by Facebook, designed for making forecasts for time series datasets and using forecasting tools available in Python is used . This enables the users to observe and predict the spread of the coronavirus pandemic on a daily or weekly or monthly basis. The first steps of data analysis are conducted by reading the dataset and cleaning the dataset of missing values and outliers. Thus, for making the analysis and prediction ,six python libraries are ‘NumPy,’ ‘Pandas,’ ‘Matplotlib,’ ‘Datetime,’ ‘NumPy’ and ‘prophet.’ are used.

LITERATURE SURVEY

- Sujatha and Chatterjee (2020) proposed a model that could be useful to foresee the spread of COVID-2019 by using linear regression, Multilayer perceptron and Vector autoregression model on the COVID-19 Kaggle data to envision the epidemiological example of the malady and pace of COVID-2019 cases in India.

- Yang et al. (2020) introduced dynamic SEIR model for anticipating the COVID-19 pestilence pinnacles and sizes. They utilized an AI model prepared with respect to past SARS dataset additionally shows guarantee for future expectation of the scourges.

- Bastian et al. (2020) presented early-stage location of COVID-19, which is named by World Health Organization (WHO), by machine learning strategies actualized on stomach Computed Tomography pictures.

OBJECTIVE

- The goal of this model is to predict the next 30 day's number of coronavirus cases based on the last n day's number of coronavirus cases and deaths.
- This model could be used to help cities create policy regarding the lockdown and reopening of certain businesses.
- This model could also be extremely beneficial to hospitals by helping them predict the resources they would need for the next day given specific data. For example, hospitals could predict the number of beds or doctors they would need the next day based on a local prediction of coronavirus cases and previous data of the number of beds or doctors needed.

EXISTING SYSTEM

- The spread of COVID-2019 can be predicted by using linear regression, Multilayer perceptron and Vector autoregression.

- There's also SEIR model for anticipating the COVID-19 pestilence pinnacles and sizes. It utilizes an AI model prepared with respect to past SARS dataset additionally shows guarantee for future expectation of the scourges.

- Covid 19 outbreak can be predicted by machine learning strategies actualized on stomach Computed Tomography pictures.

- The supervised ML models for COVID-19 infection were developed with a decision tree, logistic regression, naive Bayes.

- SVM and ANN machine learning algorithms with an epidemiology dataset for positive and negative COVID-19 cases

PROPOSED SYSTEM

- Prophet is a procedure for forecasting time series data based on an additive model where non-linear trends are fit with yearly, weekly, and daily seasonality, plus holiday effects.

- It works best with time series that have strong seasonal effects and several seasons of historical data.

- Facebook Prophet method is robust to missing data and shifts in the trend, and typically handles outliers well.

- Prophet is accurate and fast.

- This procedure gets a reasonable forecast on messy data with no manual effort.

- The Prophet procedure includes many possibilities for users to tweak and adjust forecasts.

- Human-interpretable parameters can be used to improve the forecast by adding your domain knowledge

- Facebook has implemented the Prophet procedure in R and Python.

SYSTEM REQUIREMENTS SPECIFICATION

Hardware required:

- ✔ Computer system(laptop)
- ✔ Corei5 with 8 GB of Ram and 2.8 GHz processor speed
- ✔ Power supply
- ✔ Software required:

Operating system:

- ✔ Windows
- ✔ Jupiter Notebook, PyCharm
- ✔ Collab, 1. TensorFlow

- ✔ Python modules like Pandas, Flask framework, Notebook, PyCharm, seaborn

- ✔ Dataset collected from GitHub, Kaggle.