

IDENTIFYING COVID-19 RESPECT TO AGE FACTOR USING ARTIFICIAL INTELLIGENCE

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ABSTRACT

COVID-19 affects different people in different ways like lack of immunity, symptoms like diabetes, respiratory problems, cough etc... Most infected people will develop mild to moderate illness and recover without hospitalization. Seek immediate medical attention if you have serious symptoms. Always call before visiting your doctor or health facility. People with mild symptoms who are otherwise healthy should manage their symptoms at home and they need to be self isolated to avoid the spread of the disease. Many tools are used in AI, including versions of search and mathematical optimization, artificial neural networks, and methods based on statistics, probability, economics.

Keywords: COVID-19, AI.

I. INTRODUCTION

Risk for severe illness with COVID-19 increases with age, with older adults at highest risk. Certain medical conditions can also increase risk for severe illness. People at increased risk, and those who live or visit with them, need to take precautions to protect themselves from getting COVID-19. Severe illness means that a person with COVID-19 may require:

- ❖ Hospitalization,
- ❖ Intensive care, or a
- ❖ Ventilator to help them breathe, or
- ❖ They may even die.

Older adults are at greater risk of requiring hospitalization or dying if they are diagnosed with COVID-19. As you get older, your risk of being hospitalized for COVID-19 increases.

II. RELATED WORK

We note a few related works where AI has been applied for detection, prevention, and prediction to combat the COVID-19 pandemic [1]. Feline coronavirus is an α -coronavirus and the virus causing enteritis in domestic and wild cats. Approximately 5–15% of infected cats develop feline infectious peritonitis (FIP) which is fatal to cats [3]. The infection by FIP virus in cats presented similar features to the severe acute respiratory syndrome (SARS) infection such as pulmonary lesions in humans [4].

Biosurveillance is the science of early detection and prevention of a disease outbreak in the community [1]. Analytics, machine learning, and natural language processing (NLP) are being increasingly used in biosurveillance [3]. Scientists at the Johns Hopkins University developed a COVID-19 prediction modeling based on a previously published stochastic metapopulation epidemic model [7].

In March 2020, X-ray images of healthy people and Covid-19 infected peoples [2] were available online in different repositories such as Github, Kaggle for analysis. Colloquially known as coronavirus, the SARS-CoV-2 that causes the COVID-19 is a contagious virus that belongs to the family of coronaviridae.

The disease causes flu-like symptoms including cough, fever, fatigue and shortness of breath. The main source of the virus is still under debate, but the studies on the genome sequence of the virus has determined it to belong to the group of β -CoV genera of the coronavirus family which takes as host bats and rodents [8].

III. METHODOLOGY

A. ARTIFICIAL INTELLIGENCE:

Artificial Intelligence (AI) is an innovative technology which is helpful to fight the COVID-19 pandemic. This technology is helpful for proper screening, tracking and predicting the current and future patients. The major applications of this AI are for early detection and diagnosis of the infection. AI is used for the development of drugs and vaccines, and the reduction of workload of healthcare workers.

B. LOGISTIC REGRESSION:

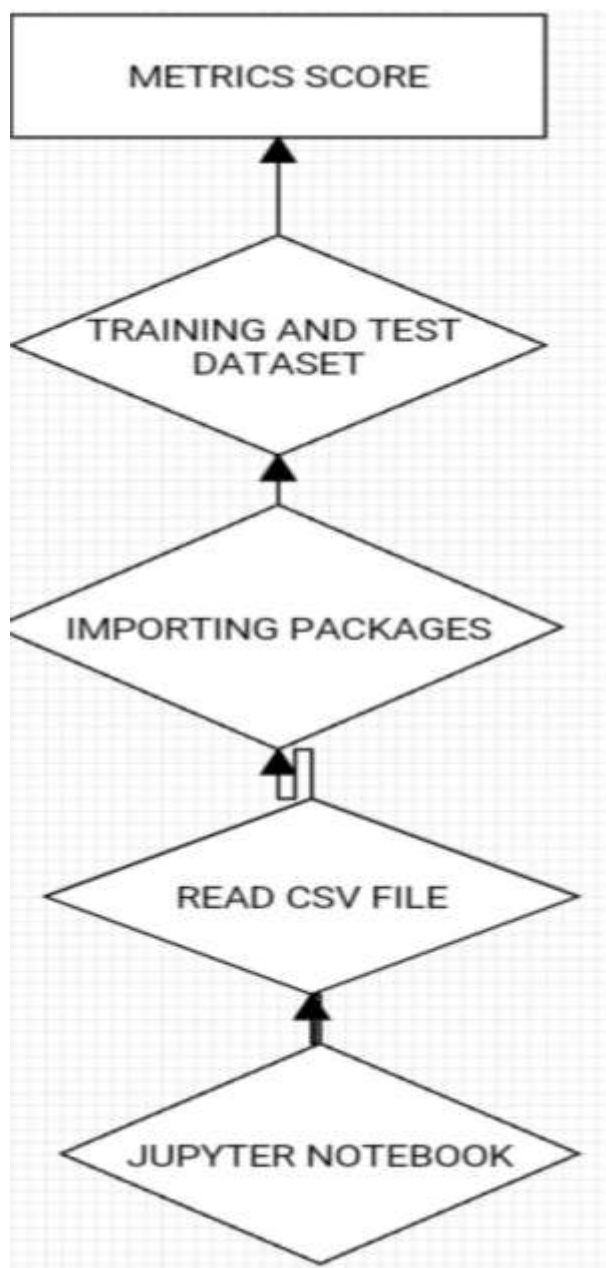
Logistic regression is one of the most popular Machine Learning algorithms, which comes under the Supervised Learning technique. It is used for predicting the categorical dependent variable using a given set of independent variables.

Logistic regression predicts the output of a categorical dependent variable. Therefore the outcome must be a categorical or discrete value. It can be either Yes or No, 0 or 1, true or False, etc. but instead of giving the exact value as 0 and 1, it gives the probabilistic values which lie between 0 and 1.

Logistic Regression is much similar to Linear Regression except that how they are used. Linear Regression is used for solving Regression problems, whereas Logistic regression is used for solving the classification problems.



C. FLOW CHART:



IV. RESULT

The screenshot shows a Jupyter Notebook window titled 'team5 - objective2'. The code in cell [67] calculates the accuracy score for status, resulting in 0.81765195670274771. Cell [68] performs a prediction using status, displaying a DataFrame with columns 'KnowOP' and 'predicted_value'.

```

In [67]: #STATUS
#accuracy for Status
metrics.accuracy_score(test_Y,predicted_value)

Out[67]: 0.81765195670274771

In [68]: #prediction using status
pd.DataFrame({'predicted_value':predicted_value,'KnowOP':test_Y})

Out[68]:

```

KnowOP	predicted_value
3054	102
2549	102
2914	102
732	104
86	103
3857	104
2135	104

Fig: 4.1

Test data is data which has been specifically identified for use in tests, typically of a computer program. Some data may be used in a confirmatory way, typically to verify that a given set of input to a given function produces some expected result. Test data may be recorded for re-use, or used once and then forgotten. Here we are evaluating the metrics using the tested value and the predicted value with text_y as symptom id and it's values are displayed.

V. CONCLUSION AND FURTHER WORK

COVID-19 has affected the whole world by its effects. It has affected the older people because of the lack of immunity power and may be they are affected by other diseases like respiratory problems, diabetes. Small age children will also get affected because at their stage of growth only their immunity strength will also be in the development stage. So they also get affected easily. Middle age group people are affected due to lack of immunity and other symptoms.

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