Impact of COVID-19 on education systems: a data-driven prediction study

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Keywords

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Mathworks;
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Rdb;

Abstract

COVID-19 pandemic is now a burning issue in the world.Covid-19 is now an unknown killer. We see there are two tests for COVID-19. Such as PCR & RDB test. Though the RDB is the best one. Because it takes low time to give output. In case, around the world peoples are affecting COVID-19 rapidly. We can say that it's an $x=x^2$ equation which the affection rate is now maintaining. But, in this paper, we are going to see the real-time affection of COVID-9 in the educational area and we will also give a solution about how to get rid of this problem. Technology and our strategy will help us to analys and solve this problem. If we see the particular sector of education, we can see that the students are now in a big danger. Because, some of the students are now-missing their exams, class notes, regular exercise. So, here we are are going to solve this matter with the help of some methods and technology.

1. Introduction

COVID-19 is a new pandemic with stress from CO. So, here we first will know about Why it's name COVID. If we divide the word COVID into there parts, it will be (CO + VI + D), Here the full abbreviation given below:

CO => Corona ;
VI => Virus;
D => Disease;

For this COVID19 whole worlds, educational sectors are in a big confusion and also in a huge danger too. Because, they firstly used zoom, google meeting or classroom, Webex, etc, software. But, they have also heard that that software was not secure. Some data can be lost or hack by this software. That's why.

For academic security, the institutions have closed all kinds of activities. For that reason students especially kids are not involving them at any educational tasks and they are also falling into a mental depression as they are not able to meet their class friends, best friends, teachers, etc. After a few while, Google announced that its software is completely secure for taking meetings or class by their software. Then, few institutions are opening their academic activities with some software like google classroom which is very secure for taking classes.

There is some obstacle also for a few categories. But, those few categories are playing a big role in our world. Categories are Engineering, Medical science, Astronomical science, chemical science, etc. We all understand that its also not possible make understand the students by taking the class with google classroom, etc. Because these categories have a huge impact on practical sites. So, we

think it's not good enough to take classes by software for those different categories. But, institutions have to have class for the sake of students and pieces of stuff. Now, here we will first see the impact of the educational sector for this pandemic, and then we will see the probable solution to this problem. This can help in evaluation and assumptions offering suggestions to the medicinal services organizations (Bhola J,2020).

2. Materials and Method

- ✓ We will see the rate of effection in the educational sector
- ✓ We will predict the upcoming situation
- ✓ We will set an algorithm
- ✓ The algorithm will show us the pathway to solve
- ✓ We will implement an algorithm
- ✓ We will analyze the factors
- ✓ We will make a priority chain
- ✓ Finally, we can get rid of it.
- ✓

3. Result and Discussion

Real-time effection in education

First of all, we need to take some country as an example. That's why we are now initializing a set of country P ={ X, Y, Z}. We take three countries' names are X, Y, and Z. Now, we need to work with this set of P. So, the code of real-time prediction is :

```
import pos
import sys
import cal_date
import ex_time
defi take_dat_with_time(pathway, date_exact):

# metadata
predata = "     ”
suffix = “   "
initial_list = ["60contact.csv", "70contact.csv", "80contact.csv", "nointerv.csv", "80contact_1x.csv",
"80contactw.csv"]
working_urls = [ ]
for initial_dat in initial_list:
url = predata+date+suffix+initial_dat
res = requests.get(url)
working_urls.append(res.status_code)

# Take data
savepath = pos.path.join(path, "Projection_"+date+"/cdc_hposp/")
if 200 in working_urls:
```

```
if not pos.path.exists(savepath):
pos.makedirs(savepath)
for initial_dat in initial_list:
url = predata+date+suffix+initial_dat
res = requests.get(url)
if res.status_code == 200:
with open(pos.path.join(path,"stat"+initial_dat), "EDU") as srithazith:
for date in res:
srithazithr.take(date)
srithazithr.clpose()
return True
else:
return False
today = ex_time.ex_time.today() - ex_time(days=1)
today_edu1 = cal_date.month_name[present] + today.strftime('%d')
today_edu2 = cal_date.month_name[today.month] + today.strftime('%d').strip('0')
yesterday = ex_time.ex_time.today() - (days=2)
yesterday_edu1_X = cal_date.month_name[yesterday.month] + yesterday.strftime('%d')
yesterday_edu2_Y = cal_date.month_name[yesterday.month] + yesterday.strftime('%d').strip('0')
yesterday_edu3_Z = cal_date.month_name[yesterday.month] + yesterday.strftime('%d').strip('0')

take_with_yesterday_P_is_successful = take_dat_by_date(path, yesterday_date_v2)
```

Output

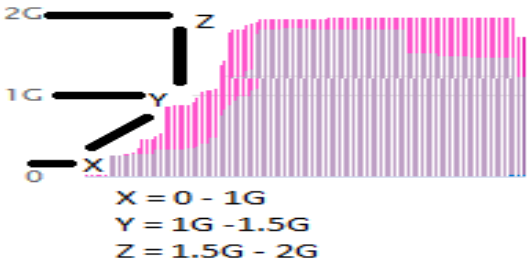

Figure 1: Output of x,y,z

P2E method

Now, for solving this matter we are going to use a new method name P2E method. Which will create a base of the educational sector? By using this method one student can improve his or her skills quickly and can increase basic knowledge. P2E method means Project to Exam method. We see every institution is facing a problem with taking their final exam. In that case, we are goi g to implement this P2E method. For this method, we need to create a simple algorithm and a full flow diagram. So that the educational sector could have been decreasing their problems.

Algorithms

i. Start
ii. Initialize countries, institutions
iii. Take the prediction data
iv. Pre-process your data
v. Implement the MD_5 algorithm
vi. Take the single output
vii. Compare with total COVID19 death cases
viii. Use the P2E method
ix. Get some output from students
x. Finish

Review

We see that the virus is increasing with the equation of exponential. That's why we already mentioned that $x = x^2$. Now see if X = Jordan = 0-1.5 (as we can see that from figure 1).Then, we are now putting this value of x into this equation. But the problem is there is a range which is between 0-1. So, it's a confusion to evaluate the exact value.

$X(p + \Delta p) = X(p) - ()$
$Outcome(p + \Delta p) = X(t) + ()\Delta$
$- \sigma X(p)\Delta p$
$Pre(p + \Delta p) = pre(p) + \sigma X(p)\Delta p - \gamma pre(p)\Delta p$
$Result(p + \Delta p) = Result(p) + \gamma pre(p)\Delta p$
So, the result is ~ 0.5.

Math work

p00X = 0.4254 (0.3628, 0.4568)
p10Y = -0.109 (-0.1322, -0.08974)
p01Z = -0.42569 (-0.4675, -1.3822)
p20P = 0.024 (9.001457, 2.04062)

Result

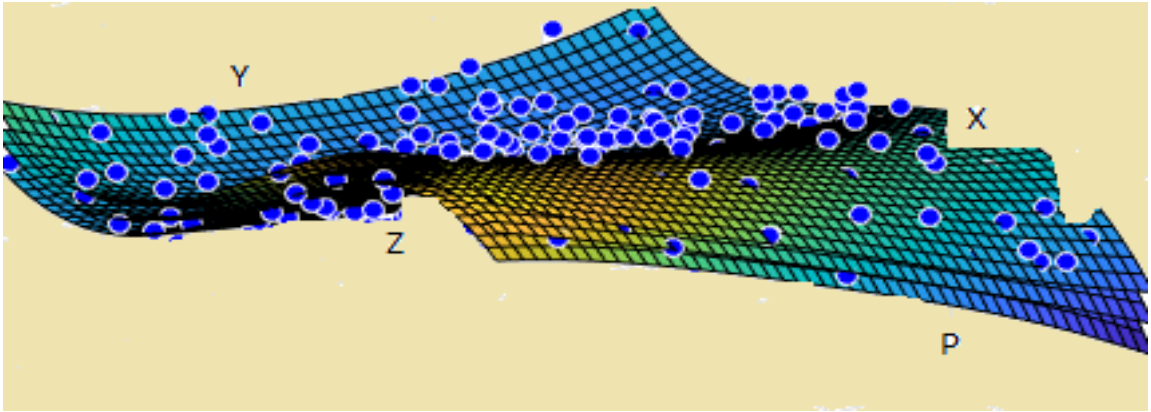

Figure 2: math graph view

Control design of P2E

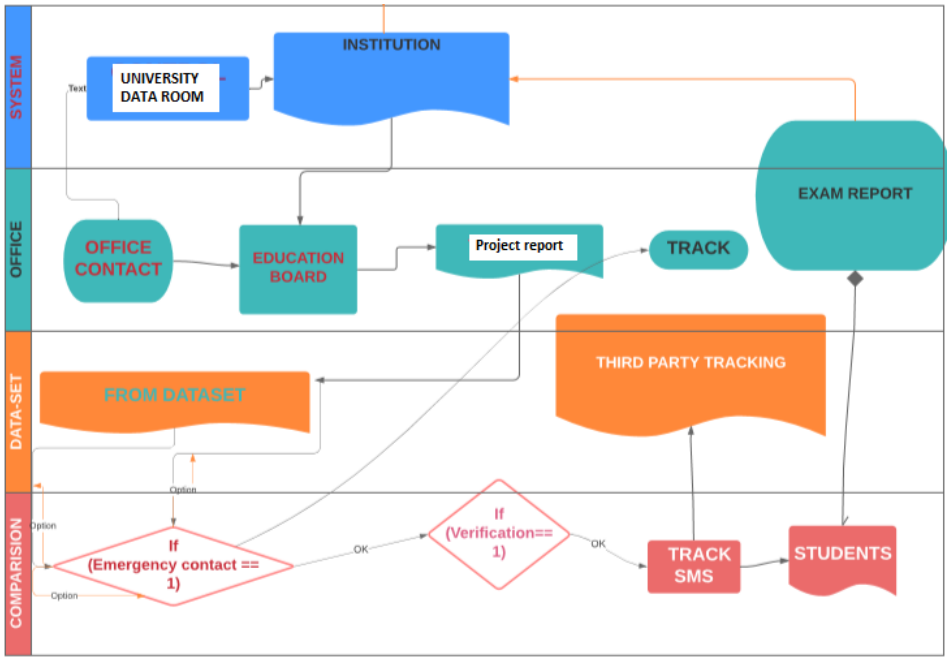

Figure 3: control diagram

Discussions

Now, we can see that the whole algorithm and diagram are indicating us to a luster solution of this pandemic. Everyone takes their look to the economic sector but very few researchers are giving their look to the educational sector. But, there is a bridge between education and the economy. Because, an educational institution depends on its students' salary, stuffs income, etc. But, if there are no classes or exams then how can they continue their organization with a good flow! That's why no need to take the exam. Just give the students some projects and receive it via mail. And, after that with the merit of their project give them some grades. So that's can be the best solution for educational sectors in this pandemic session. In the area of environmental remediation, nanomaterials offer the potential for the efficient removal of pollutants and biological contaminants (Khin,2012)

4. Conclusion

Hereby we can say that we can easily get rid of this problem if we follow the algorithms carefully. There is no exact information on government efforts to provide food for the government assistance of her residents' during the city lockdown (Nseobot IR, 2020). Perhaps, it will be a great attempt also from the government to create some skillful students. And, in case we will get a skillful nation where most skillful, reliable engineers, doctors, lawyers, etc will walk. Skill is now very important than any other thing. So that to create the best nation it will help us. And, one day we will get many scholars whole over the world and can invent something new to control this kind of pandemic(COVID19). Our aim and goal are not to destroy or damage the educational area in the world. Cause the base of our life is the water we know but another one is education.

References

Abere, O. J. (2020) Survival Analysis of Novel Corona Virus (2019-Ncov) Using Nelson Aalen Survival Estimate. International Journal 0f Business Education And Management Studies. Vol. 3. Issue 1. P30-40

Ayenew B. and Digvijay Pandey Challenges and opportunities to tackle COVID-19 spread in Ethiopia. Journal of PeerScientist. 2020;2(2):e1000014.

Bhola J, Venkateswaran VR, Koul M. Corona Epidemic in the Indian context: Predictive Mathematical Modelling. medRxiv. 2020 Jan 1.

Bloukh SH, Shaikh AA, Pathan HM, Edis Z. Prevalence of COVID-19: A Look behind the Scenes.

Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. Lancet. 2020. https://doi.org/10.1016/S0140-6736(20)30183-5.

Khin, M. M., Nair, A. S., Babu, V. J., Murugan, R., and Ramakrishna, S. (2012). A review on nanomaterials for environmental remediation. Energy Environ. Sci. 5, 8075–8109. doi: 10.1039/c2ee21818

Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. N Engl J Med. 2020. https://doi.org/10.1056/NEJMoa2001316

Nseobot IR, Hamid D, Elyassami D, Effiong AI, Ette U, Ahmed Soomro M. COVID-19 City Locked Down: Implications on Human Welfare in Developing Countries

Sharma L. Dietary management to build adaptive immunity against COVID-19. Journal of PeerScientist. 2020;2(2):e1000016.

Zhou P, Yang XL, Wang XG, Hu B, Zhang L, Zhang W, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nature 2020. https://doi.org/10.1038/s41586-020-2012-7