Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY, THANE
(All Programs Accredited by NBA)
Department of Information Technology


# ITL804: R-PROGRAMMING LAB

# MINI-PROJECT PRESENTATION

ACADEMIC YEAR: 2021-22

CLASS-BRANCH: BE-IT

SUBJECT IN-CHARGE: SHAFAQUE FATMA SYED

# PROJECT TITLE: COVID-19 WORLD VACCINATION PROGRESS

## STUDENT TEAM:


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# ROADMAP

- INTRODUCTION
- OBJECTIVES
- SCOPE
- SUMMARIZING THE DATASET
- VISUALIZING THE DATASET
- ALGORITHM DETAILS
- RESULTS
- REFERENCES

# INTRODUCTION

- WORLD NEEDS TO BE IMMUNE TO COVID-19
- BEING VACCINATED IS THE SOLUTION
- TRACKING THE PROGRESS

# OBJECTIVES

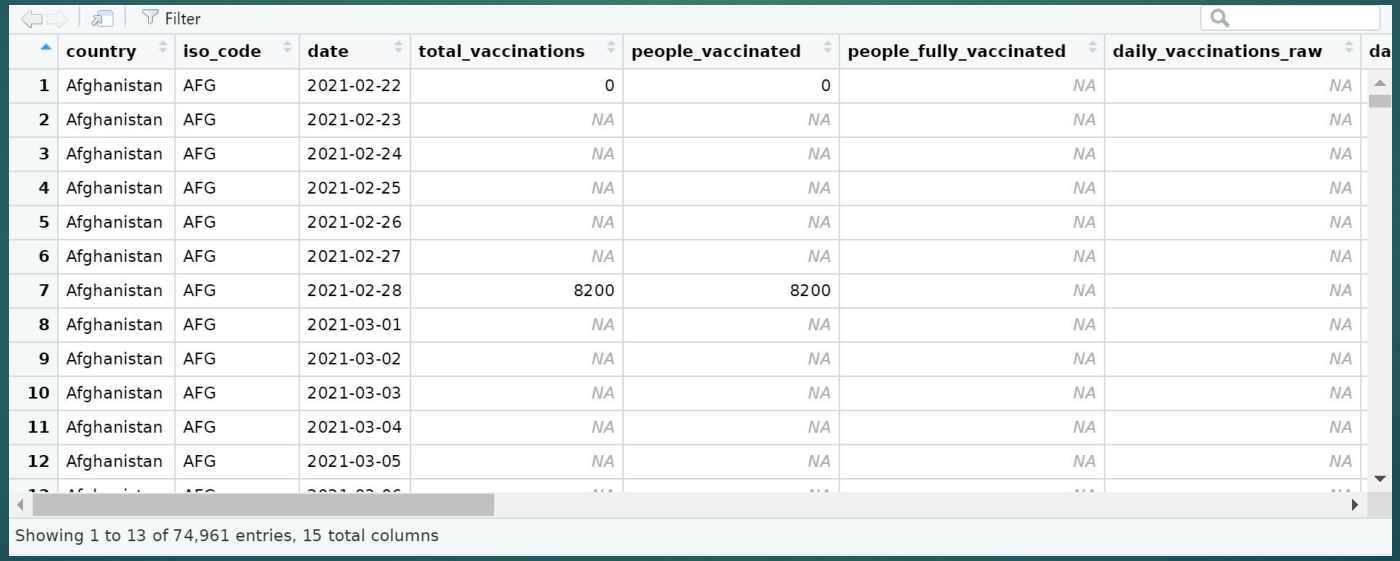
- TO FIND VACCINATION PROGRESS ACROSS DIFFERENT COUNTRIES.
- TO FIND TOTAL PEOPLE VACCINATED AROUND THE WORLD.
- TO VISUALIZE VACCINATION PROGRESS IN INDIA.
- TO PREDICT NUMBER OF VACCINATED PEOPLE IN INDIA AFTER N DAYS.

# SCOPE

- VACCINE COMPANIES CAN KEEP TRACK OF  THE ACTUAL PROGRESS OF VACCINATION THROUGHOUT THE WORLD
- COUNT OF VACCINES USED ALL OVER THE WORLD CAN BE TRACKED TO ADJUST THE SUPPLY CHAIN

# SUMMARIZING THE DATASET

- THE DATASET HAS 15 COLUMNS, AND 74961 ROWS HAVING DATA OF DIFFERENT COUNTRIES.
- THE RANGE OF DATE FOR WHICH THE DATA WAS RECORDED WAS "2021-01-16" TO "2022-02-04" I.E 385 DAYS.



Filter

| | country | iso_code | date | total_vaccinations | people_vaccinated | people_fully_vaccinated | daily_vaccinations_raw | da |
|---|---|---|---|---|---|---|---|---|
| 1 | Afghanistan | AFG | 2021-02-22 | 0 | 0 | NA | NA | |
| 2 | Afghanistan | AFG | 2021-02-23 | NA | NA | NA | NA | |
| 3 | Afghanistan | AFG | 2021-02-24 | NA | NA | NA | NA | |
| 4 | Afghanistan | AFG | 2021-02-25 | NA | NA | NA | NA | |
| 5 | Afghanistan | AFG | 2021-02-26 | NA | NA | NA | NA | |
| 6 | Afghanistan | AFG | 2021-02-27 | NA | NA | NA | NA | |
| 7 | Afghanistan | AFG | 2021-02-28 | 8200 | 8200 | NA | NA | |
| 8 | Afghanistan | AFG | 2021-03-01 | NA | NA | NA | NA | |
| 9 | Afghanistan | AFG | 2021-03-02 | NA | NA | NA | NA | |
| 10 | Afghanistan | AFG | 2021-03-03 | NA | NA | NA | NA | |
| 11 | Afghanistan | AFG | 2021-03-04 | NA | NA | NA | NA | |
| 12 | Afghanistan | AFG | 2021-03-05 | NA | NA | NA | NA | |

Showing 1 to 13 of 74,961 entries, 15 total columns

FIG NO.1 GLIMPSE OF DATASET

# VISUALISING THE DATASET

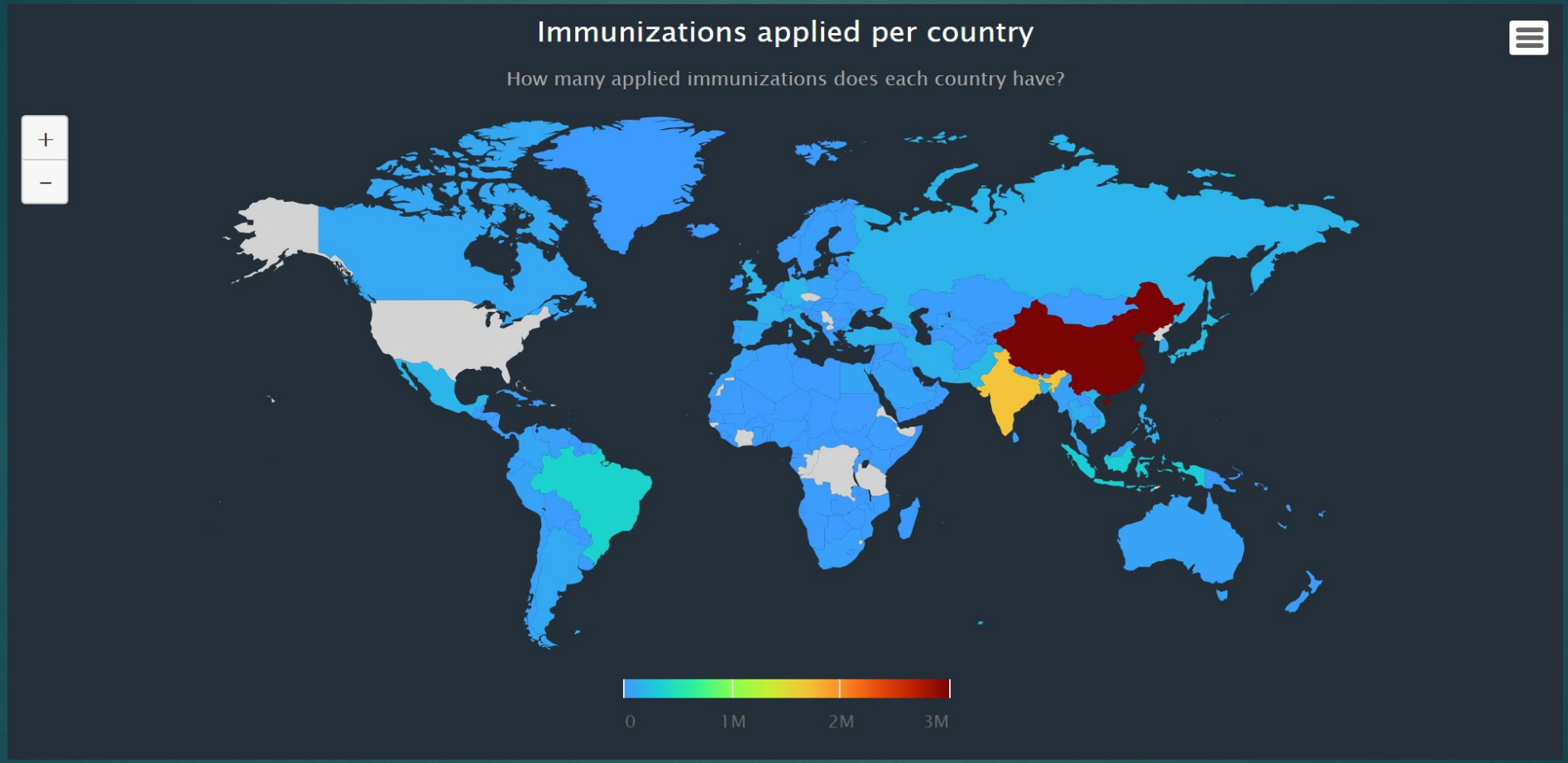



FIG NO.2 WORLD VACCINATION PROGRESS

# VISUALISING THE DATASET

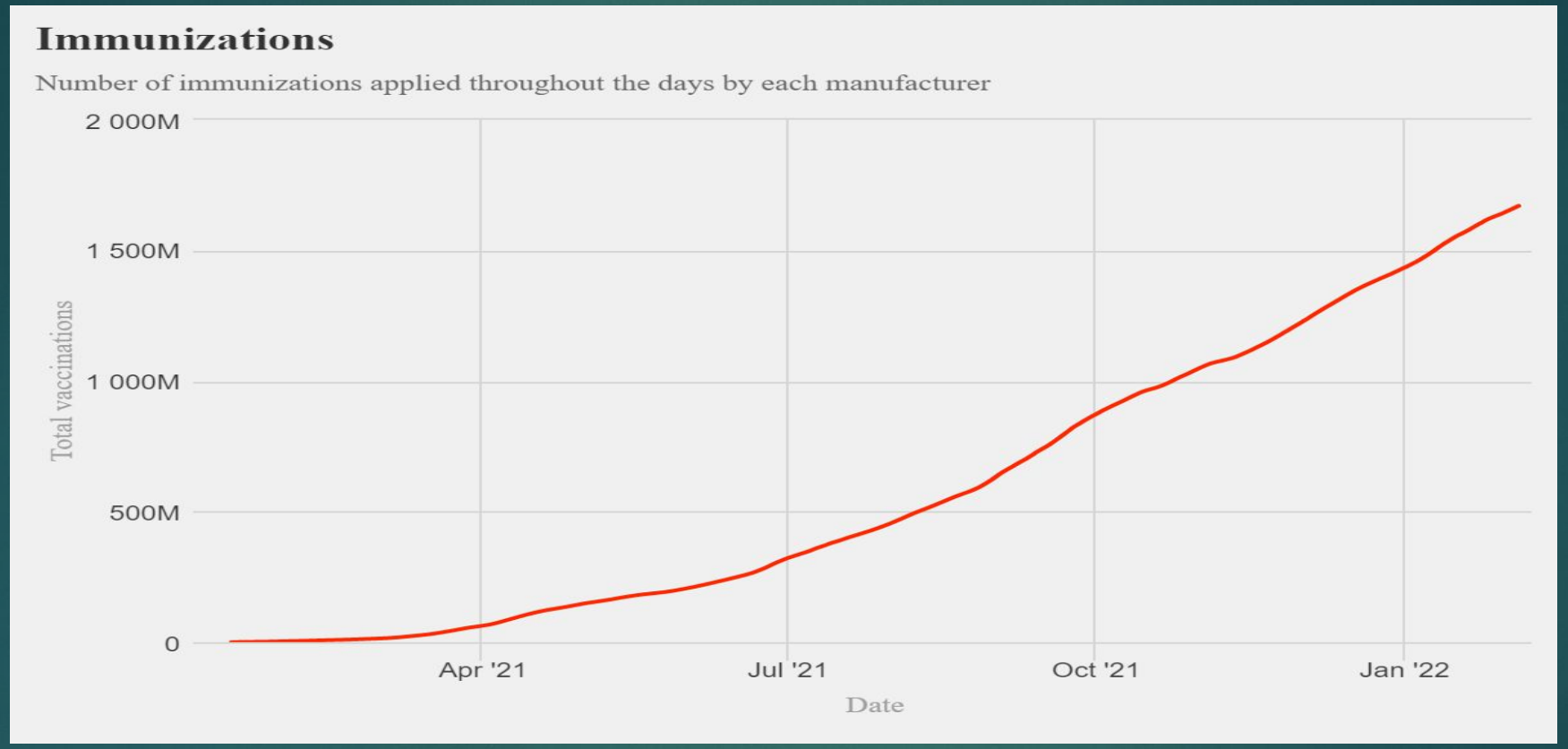



FIG NO.3 INDIA'S VACCINATION PROGRESS

# ALGORITHM DETAILS

LINEAR REGRESSION:

LINEAR REGRESSION IS A KIND OF STATISTICAL ANALYSIS THAT ATTEMPTS TO SHOW A RELATIONSHIP BETWEEN TWO VARIABLES. LINEAR REGRESSION LOOKS AT VARIOUS DATA POINTS AND PLOTS A TREND LINE.

# RESULTS

HERE, WE HAVE PREDICTED THE VALUE OF NUMBER OF PEOPLE VACCINATED AFTER 500 DAYS USING THE PARAMETERS IN BETA VECTOR.

```
> prediction <- betas[2]*500 + betas[1]
> print(prediction)
[1] 2001555090
>
```

FIG NO. 4 PREDICTION

# RESULTS

ROOT MEAN SQUARED ERROR:

```
> rmse <- 1/385*sum(a)
> print(rmse)
[1] 2.03388e+18
```

FIG NO.5 RMSE

CORRELATION COEFFICIENT:

```
> cor(Dataset$Vaccinated_people, Dataset$a)
[1] 0.9727252
>
```

FIG NO.6 CORRELATION COEFFICIENT

# REFERENCES


1. https://www.kaggle.com/datasets/gpreda/covid-world-vaccination-progress
2. library(ggplot2) : https://www.rdocumentation.org/packages/ggplot2/versions/3.3.5
3. library(highcharter) : https://www.rdocumentation.org/packages/highcharter/versions/0.9.4
4. library(dpylr) : https://www.rdocumentation.org/packages/dplyr/versions/0.7.8
5. library(Hmisc) : https://www.rdocumentation.org/packages/Hmisc/versions/4.7-0
6. library(tidyverse) : https://www.rdocumentation.org/packages/tidyverse/versions/1.3.1
7. library(janitor) : https://www.rdocumentation.org/packages/janitor/versions/2.1.0
8. library(funModeling) : https://www.rdocumentation.org/packages/funModeling/versions/1.9.4


Thank You!