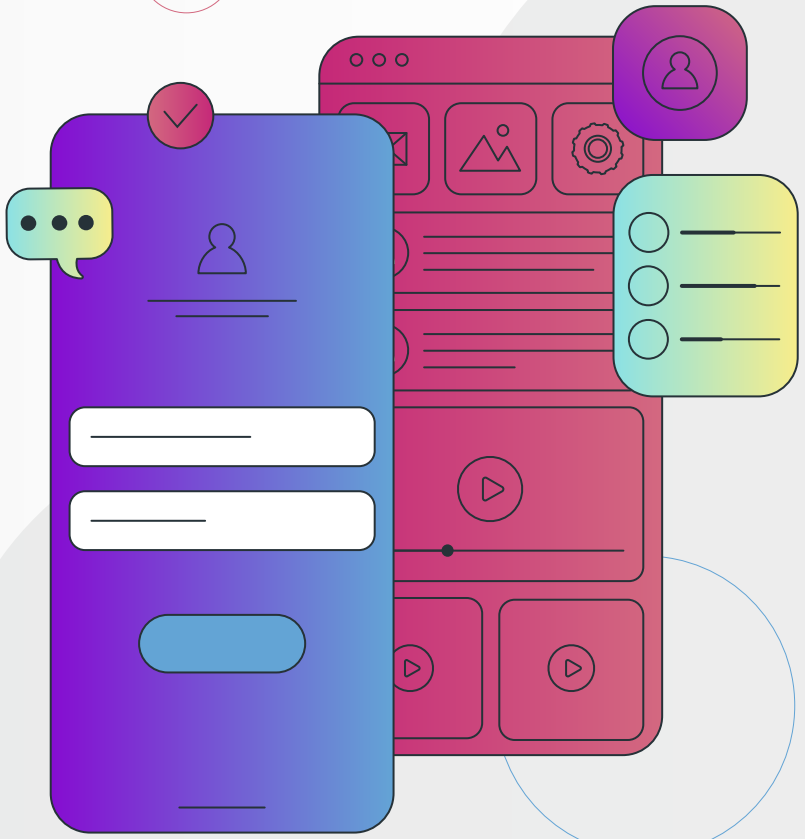
Technocrats presents

#ML01

# Covine



Ashiqa Rahman
Anshuman Mishra

Two years ago .. we participated in

Open Innovation Challenge

and learnt that ...

# Love The Problem not Solution

It's Thought Of The Day.

# So what's the plan ?

**SHHH !! SPOILERS**
**Time**

Out of the Box
thinking

We are Full Stack
Developer

Gist of Future

AI Magic

Algorithms ka
Tadka

Okay , I love
GRAPHs

#Technocrats

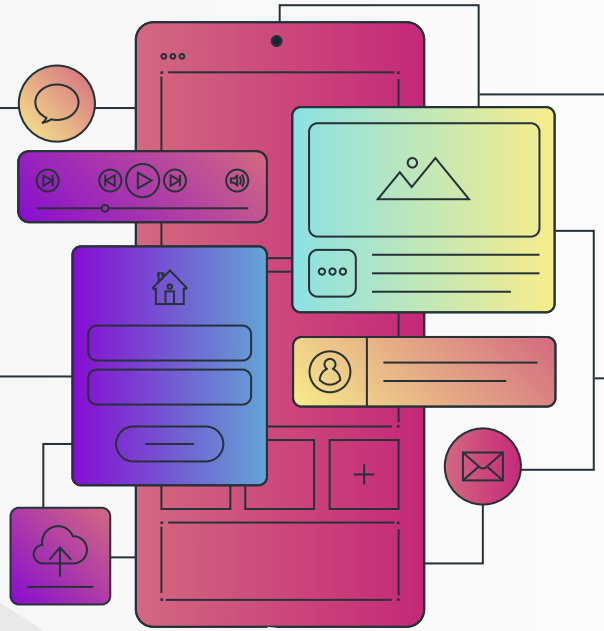
# Features

Tracing

Crowd Map

Covid Alert

Chat Bot



#AI Magic

#Technocrats

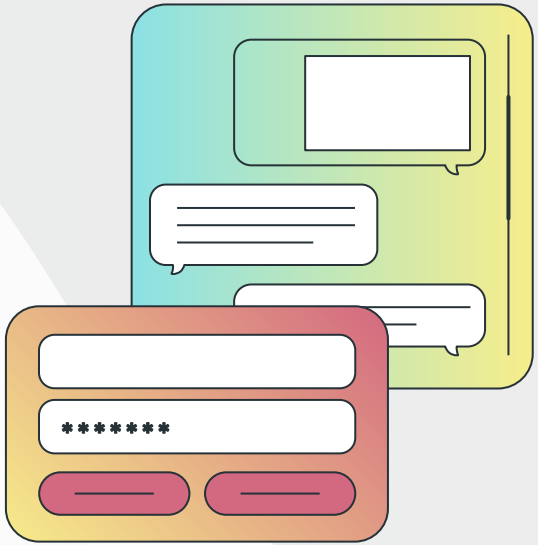
# The AI Powered ChatBot

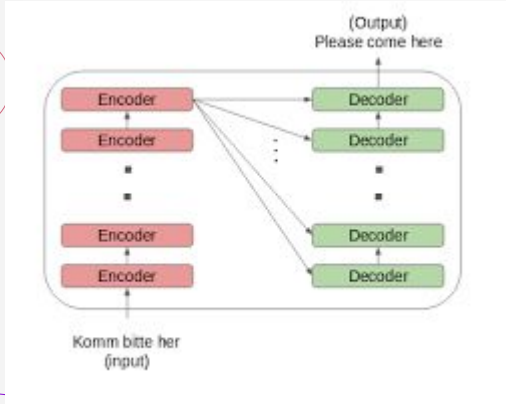
## User

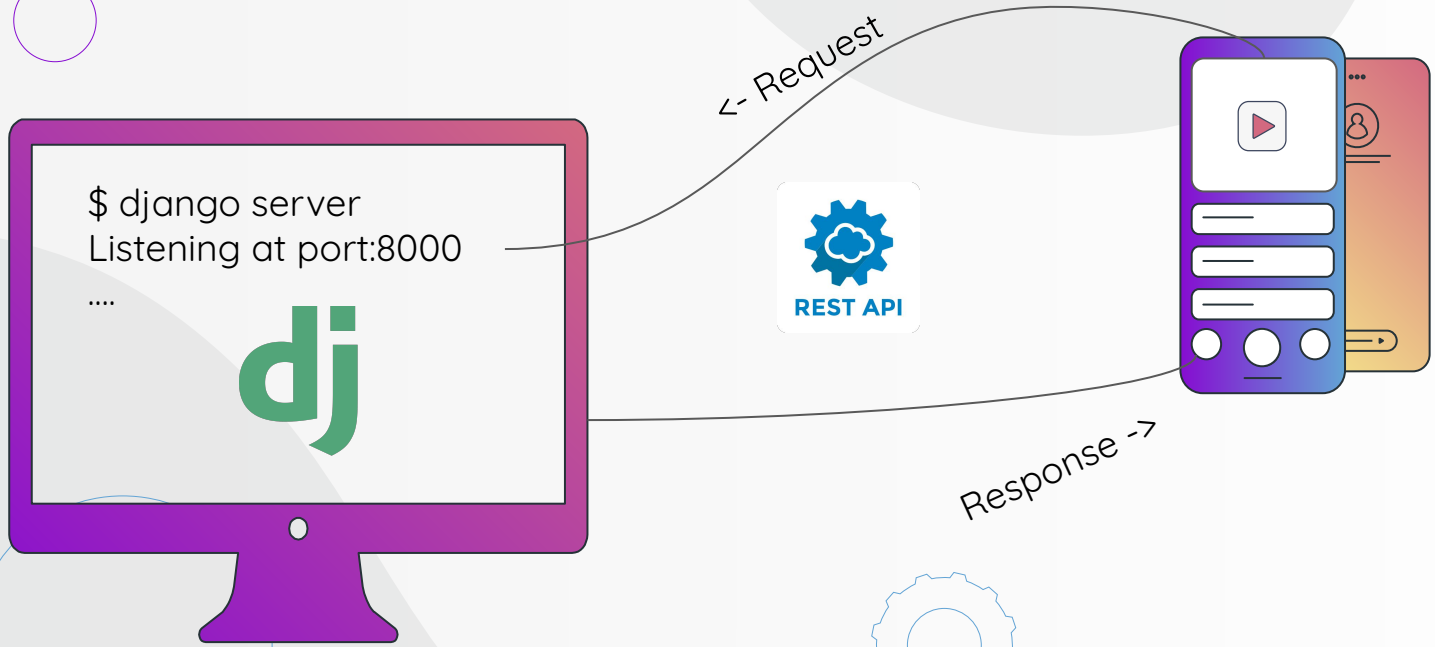
Hey !
It’s us.

## Bot

Is a pretrained RoBERTA Transformer fine tuned on covid data

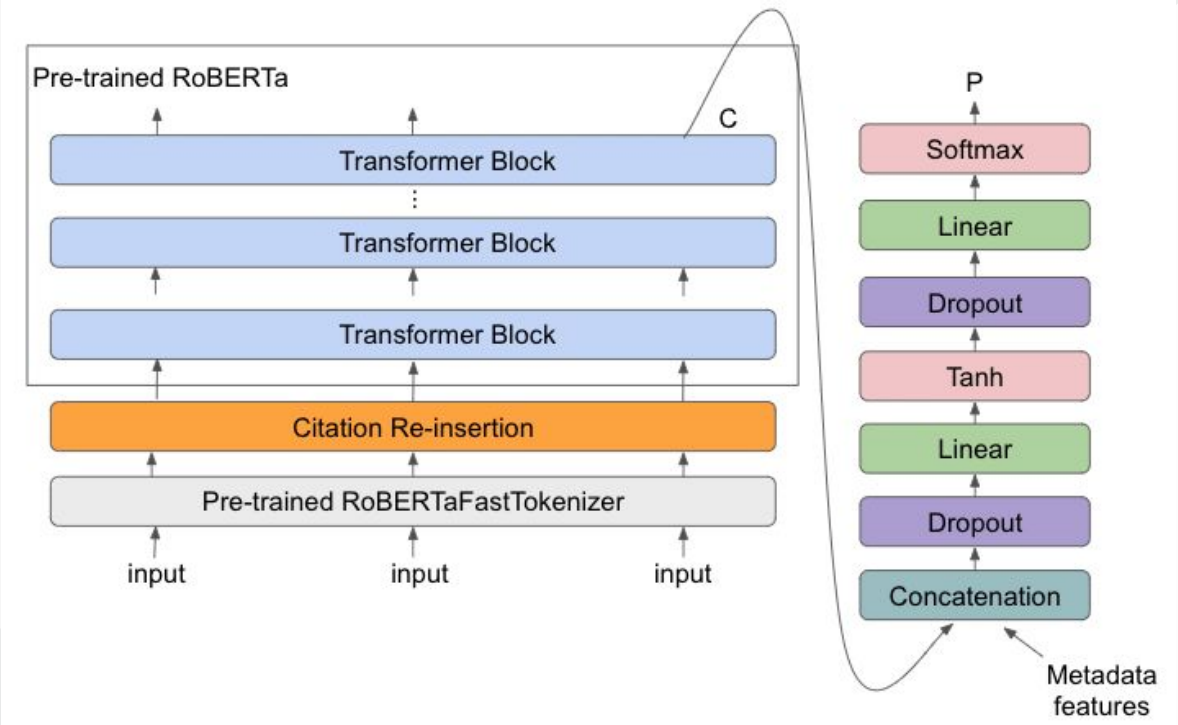



(Output)
Please come here
Encoder
Encoder
Encoder
Encoder
Decoder
Decoder
Decoder
Decoder
Komm bitte her
(input)


<- Request
$ django server
Listening at port:8000
....
REST API
Response ->

# RoBERTa




Pre-trained RoBERTa
C
Transformer Block
Transformer Block
Transformer Block
Citation Re-insertion
Pre-trained RoBERTaFastTokenizer
input
input
input
P
Softmax
Linear
Dropout
Tanh
Linear
Dropout
Concatenation
Metadata features

**Okay , so why did we use PRETRAINED Model ?**

Tradeoff of Time and Computational Power

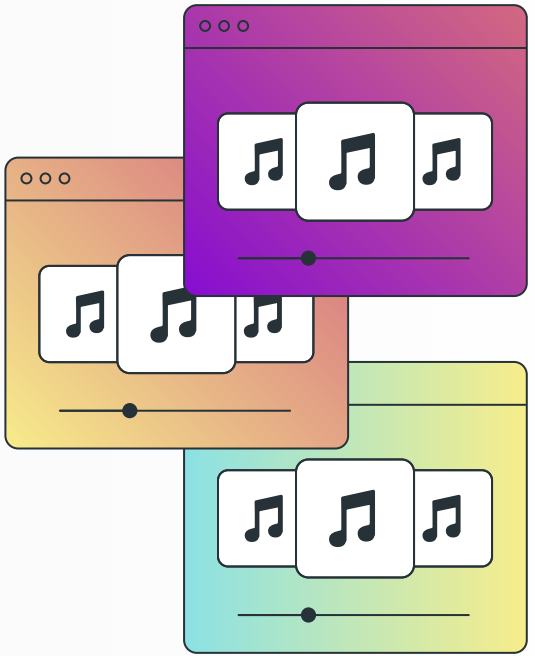
Complexity of Transformers !

Voctor

My Publication on PyPi

We want to solve a bigger PROBLEM.

# Problem : How to know if we have chance of getting infected ?



So it's almost time for

Core Computer Science

Out of the Box thinking

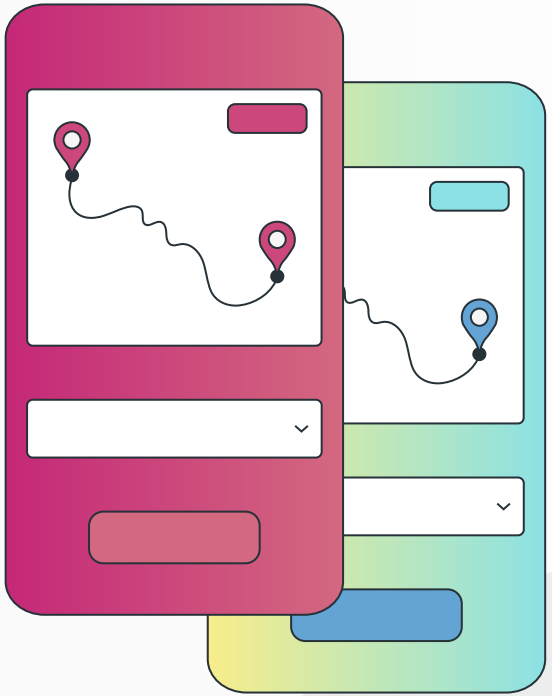
Algorithms ka Tadka

Okay , I love GRAPHs

# 02

# Covine :

## Trace Covid Send Alerts



# FEATURE #1 : TRACING SYSTEM

Problem

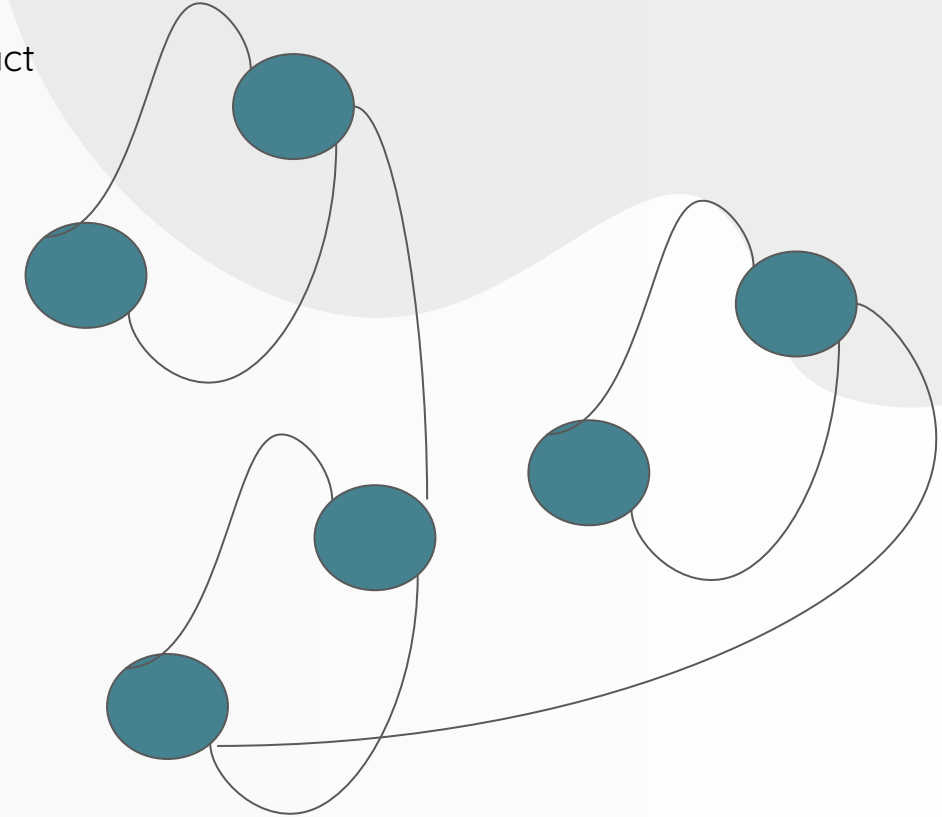
The theory

The application

# Attention Geeks !

Contact

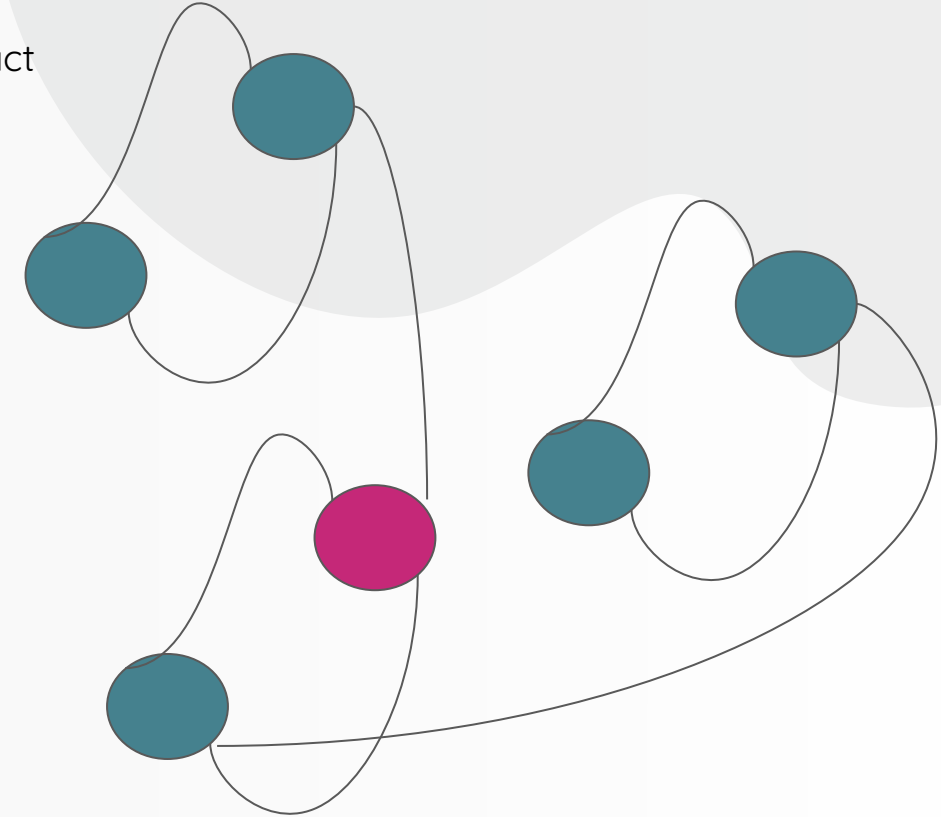
User

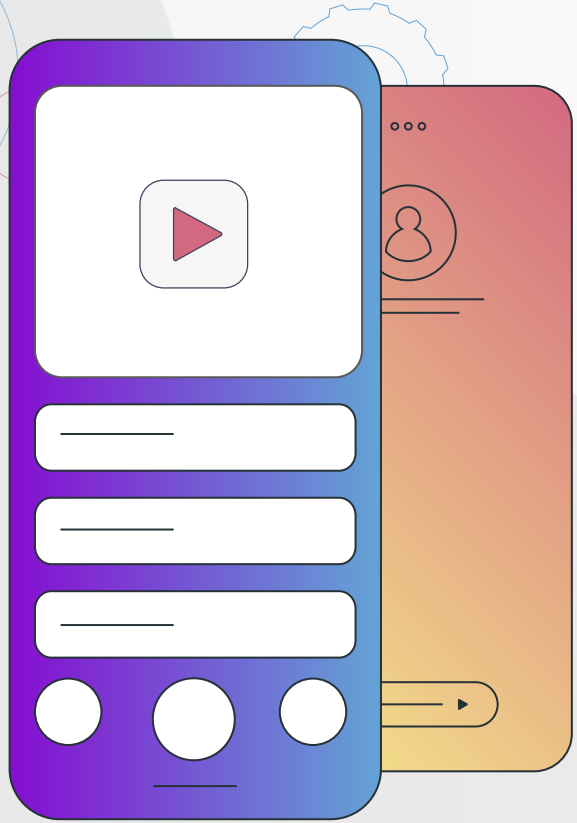


Node
Structure

ID |
Location |
Time

Contact

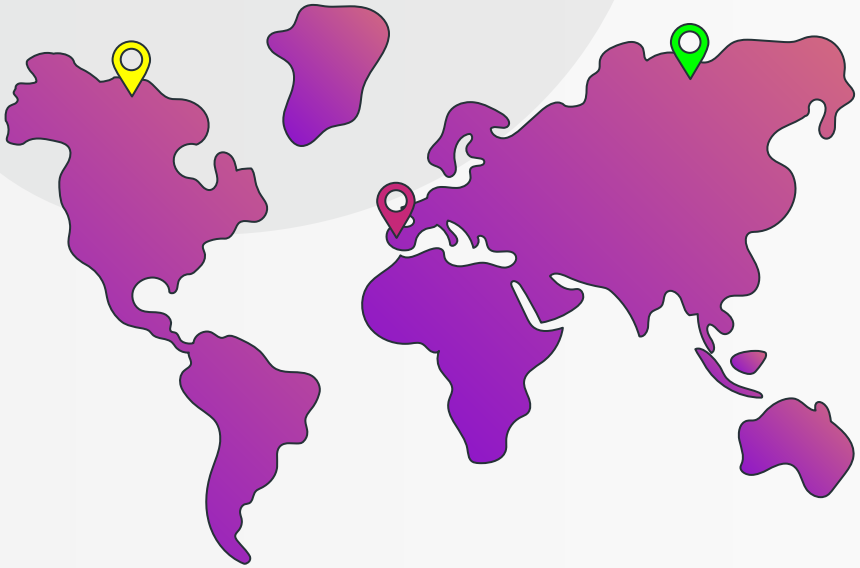




# FEATURE #2 : REPORTING PORTAL & ALERT

Infected node Reports covid19 & all adjacent nodes of infected person are alerted.

# FEATURE #3 CROWD-MAP



**Safe Zone**

Places with low head counts

**Risk Zone**

Places with higher head counts

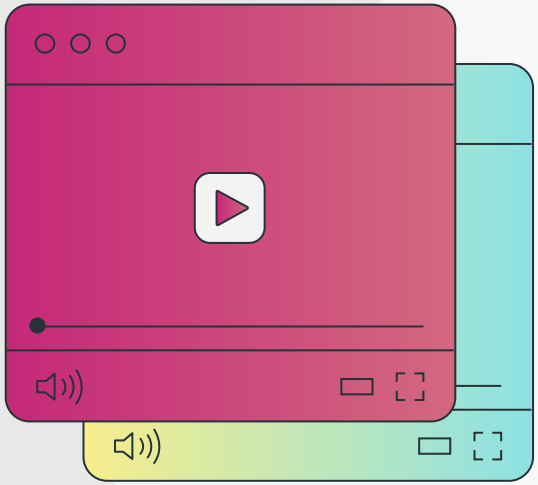
**High Risk Zone**

Crowded places with more positives .

plays dynamic count of people at a place(crowd intensity)

we know places to avoid :)

# WHAT IS USABILITY?

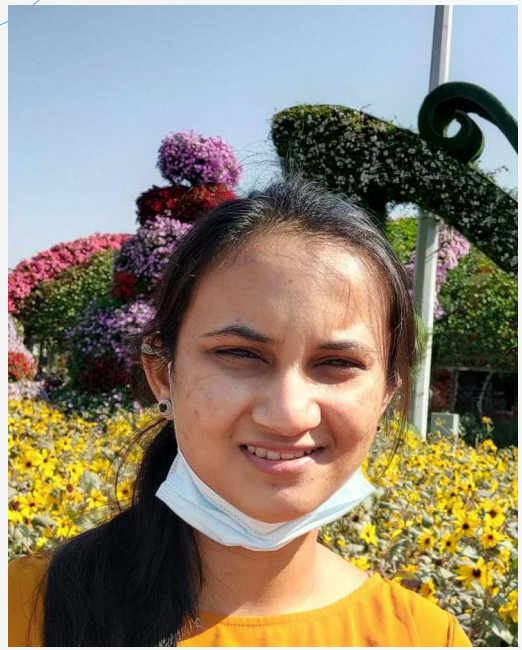


Do you know **Aarogya Setu App** does not have this simple yet powerful feature ?

Prevention is better than cure , afterall. So , we are gonna wrap our app around Aarogya Setu . Heyyy !! Open Source contribution.

The simple graph Algorithm that we use is applicable to lots of problems !

# This Is Us



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# THANKS!