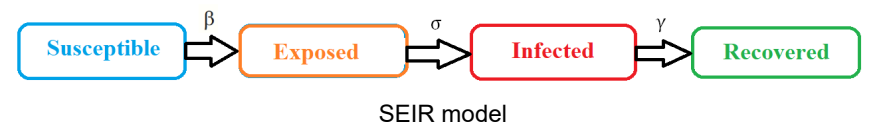


## Objective:

This project focuses on detecting COVID-19 transmission hotspots using mobile technology.

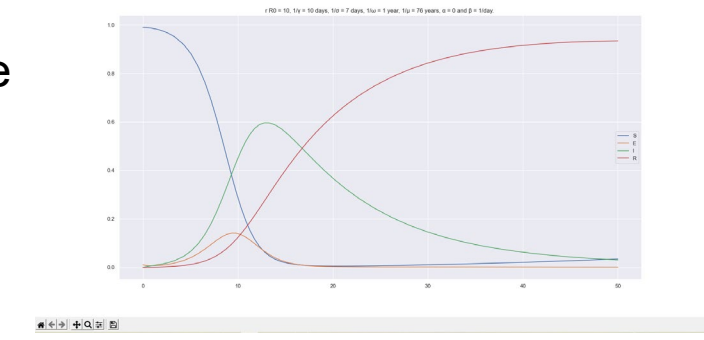
## Developed System:

- i. Develop an algorithm to estimate number of nodes and edges in the given network. Accurately estimate the size of gatherings and number of users in the gathering.
- ii. Build the SEIR model, which is used to predict the chance of getting a covid infection.
- iii. Introduce Machine Learning inside the SEIR model to estimate transmission constants.



## Broader Impact :

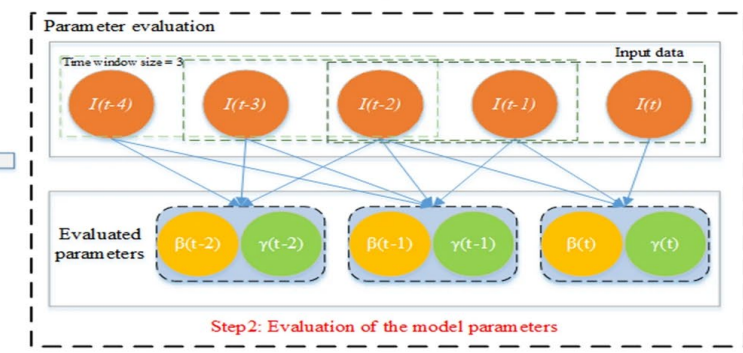
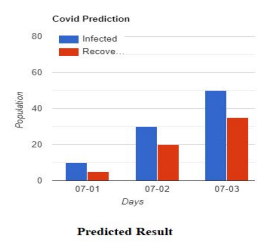
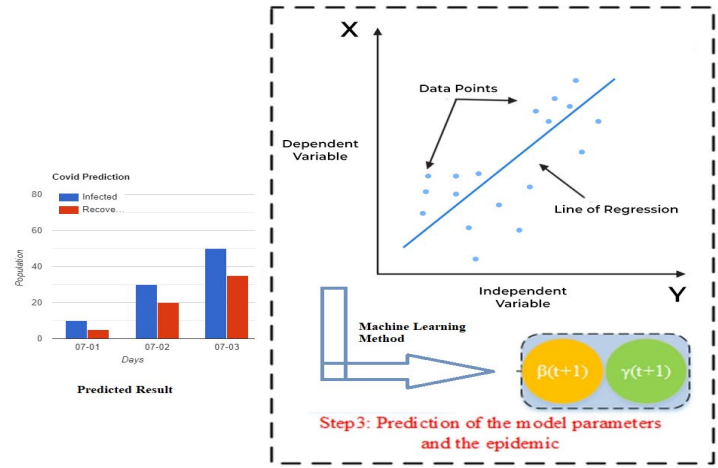
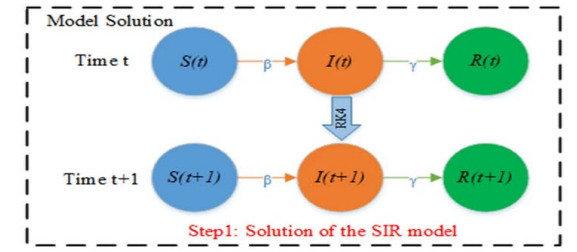
- i. Can be useful to estimate transmission for future pandemics.
- ii. Location-aware patient care.
- iii. Indoor user tracking
- iv. 5G+ communications



Plot shows the fraction of the population in each compartment with respect to a number of days

History Data

Date	Susceptible	Infected	Recovered
1/1/2020	1000	10	0
1/2/2020	950	30	20
1/3/2020	900	50	50
1/4/2020	850	70	100



Supported by NSF Rapid Award 2032114