

---

# COVID-19 Prediction

Author  
Darshil S. Patel  
18it081@charusat.edu.in

Under Mentorship Of  
Prof. Harsh Patel  
harshpatel.it@charusat.ac.in

---

## Abstract

In this year we know that covid-19 disease spread everywhere, So for this situation I'm introduce this project. It can predict covid-19 cases.

The objective of this project is to formulate a simple average aggregated machine learning method to predict the number of COVID-19 cases extent and wind-up period across India.

Machine learning and deep learning strategies are performed using the python library to predict the total number of confirmed, recovered, and death cases extensively.

This prediction will allow undertaking specific determinations based on transmission growth, such as expanding the lockdown phase, performing the sanitation plan, and providing daily support and supplies.

Machine learning algorithms play an essential role in the pandemic investigation and forecasting. Furthermore, machine learning techniques help to expose the epidemic patterns.

Moreover, machine learning models are utilized to recognize collective behavior together with the prediction of the expected spread of the COVID-19 across the society.

## 1 Introduction

Why?

We have to innovative solutions to develop, manage and analyse big data on the growing network of covid-19 infected subjects, patient details, their community movements, and integrate with clinical trials and, pharmaceutical, genomic and public health data.

Multiple sources of data including, text messages, online communications, social media and web articles can be very helpful in analyzing the growth of covid-19 infection with community behaviour. Wrapping this data with Machine Learning (ML) and Artificial Intelligence (AI), researchers can forecast.

So that we visualize, predict and forecast the covid-19 cases based on daily bases using prophet

## 2 Objective

There are two main objectives as follow:

- i: To Visualize the confirmed cases, death cases of covid-19.
- ii: Forecast the visualized cast as graphs and anything else.

## 3 Platform

Technology: Python

Hardware Requirement: Any Internet Connected PC or Laptop.

Software Requirement: Editor: Google Co-Lab

Operating System: Any operating system that can run google co-lab

### 3.1 Need Of Prophet

What is Prophet?

Prophet is open source software released by Facebook's Core Data Science team. It is available for download on CRAN and PyPI.

We use Prophet, a procedure for forecasting time series data based on an additive model where non-linear trends are fit with yearly, weekly, and daily seasonality..

Accurate and fast: Facebook finds it to perform better than any other approach in the majority of cases. It fit models in Stan so that you get predict and forecasts in just a few seconds.

Fully automatic: Get a reasonable forecast on messy data with no manual effort. Prophet is robust to outliers, missing data in your time series.

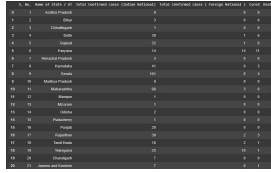
## 4 Data Sets

Datasets are collection of data in tabular form that use to build machine learning model.

The data sets that we use to visualize and predict are as follow:

We use time series data set to access world wide covid-19 data and also i use covid-19 data sets of india from covid19india.org.

## 4.1 Test Cases(Working Images)



Date	Confirmed Cases	Deaths	Recovered Cases
2020-01-20	1	0	0
2020-01-21	2	0	0
2020-01-22	3	0	0
2020-01-23	4	0	0
2020-01-24	5	0	0
2020-01-25	6	0	0
2020-01-26	7	0	0
2020-01-27	8	0	0
2020-01-28	9	0	0
2020-01-29	10	0	0
2020-01-30	11	0	0
2020-01-31	12	0	0
2020-02-01	13	0	0
2020-02-02	14	0	0
2020-02-03	15	0	0
2020-02-04	16	0	0
2020-02-05	17	0	0
2020-02-06	18	0	0
2020-02-07	19	0	0
2020-02-08	20	0	0
2020-02-09	21	0	0
2020-02-10	22	0	0
2020-02-11	23	0	0
2020-02-12	24	0	0
2020-02-13	25	0	0
2020-02-14	26	0	0
2020-02-15	27	0	0
2020-02-16	28	0	0
2020-02-17	29	0	0
2020-02-18	30	0	0
2020-02-19	31	0	0
2020-02-20	32	0	0
2020-02-21	33	0	0
2020-02-22	34	0	0
2020-02-23	35	0	0
2020-02-24	36	0	0
2020-02-25	37	0	0
2020-02-26	38	0	0
2020-02-27	39	0	0
2020-02-28	40	0	0
2020-02-29	41	0	0
2020-03-01	42	0	0
2020-03-02	43	0	0
2020-03-03	44	0	0
2020-03-04	45	0	0
2020-03-05	46	0	0
2020-03-06	47	0	0
2020-03-07	48	0	0
2020-03-08	49	0	0
2020-03-09	50	0	0
2020-03-10	51	0	0
2020-03-11	52	0	0
2020-03-12	53	0	0
2020-03-13	54	0	0
2020-03-14	55	0	0
2020-03-15	56	0	0
2020-03-16	57	0	0
2020-03-17	58	0	0
2020-03-18	59	0	0
2020-03-19	60	0	0
2020-03-20	61	0	0
2020-03-21	62	0	0
2020-03-22	63	0	0
2020-03-23	64	0	0
2020-03-24	65	0	0
2020-03-25	66	0	0
2020-03-26	67	0	0
2020-03-27	68	0	0
2020-03-28	69	0	0
2020-03-29	70	0	0
2020-03-30	71	0	0
2020-03-31	72	0	0
2020-04-01	73	0	0
2020-04-02	74	0	0
2020-04-03	75	0	0
2020-04-04	76	0	0
2020-04-05	77	0	0
2020-04-06	78	0	0
2020-04-07	79	0	0
2020-04-08	80	0	0
2020-04-09	81	0	0
2020-04-10	82	0	0
2020-04-11	83	0	0
2020-04-12	84	0	0
2020-04-13	85	0	0
2020-04-14	86	0	0
2020-04-15	87	0	0
2020-04-16	88	0	0
2020-04-17	89	0	0
2020-04-18	90	0	0
2020-04-19	91	0	0
2020-04-20	92	0	0
2020-04-21	93	0	0
2020-04-22	94	0	0
2020-04-23	95	0	0
2020-04-24	96	0	0
2020-04-25	97	0	0
2020-04-26	98	0	0
2020-04-27	99	0	0
2020-04-28	100	0	0
2020-04-29	101	0	0
2020-04-30	102	0	0
2020-05-01	103	0	0
2020-05-02	104	0	0
2020-05-03	105	0	0
2020-05-04	106	0	0
2020-05-05	107	0	0
2020-05-06	108	0	0
2020-05-07	109	0	0
2020-05-08	110	0	0
2020-05-09	111	0	0
2020-05-10	112	0	0
2020-05-11	113	0	0
2020-05-12	114	0	0
2020-05-13	115	0	0
2020-05-14	116	0	0
2020-05-15	117	0	0
2020-05-16	118	0	0
2020-05-17	119	0	0
2020-05-18	120	0	0
2020-05-19	121	0	0
2020-05-20	122	0	0
2020-05-21	123	0	0
2020-05-22	124	0	0
2020-05-23	125	0	0
2020-05-24	126	0	0
2020-05-25	127	0	0
2020-05-26	128	0	0
2020-05-27	129	0	0
2020-05-28	130	0	0
2020-05-29	131	0	0
2020-05-30	132	0	0
2020-05-31	133	0	0
2020-06-01	134	0	0
2020-06-02	135	0	0
2020-06-03	136	0	0
2020-06-04	137	0	0
2020-06-05	138	0	0
2020-06-06	139	0	0
2020-06-07	140	0	0
2020-06-08	141	0	0
2020-06-09	142	0	0
2020-06-10	143	0	0
2020-06-11	144	0	0
2020-06-12	145	0	0
2020-06-13	146	0	0
2020-06-14	147	0	0
2020-06-15	148	0	0
2020-06-16	149	0	0
2020-06-17	150	0	0
2020-06-18	151	0	0
2020-06-19	152	0	0
2020-06-20	153	0	0
2020-06-21	154	0	0
2020-06-22	155	0	0
2020-06-23	156	0	0
2020-06-24	157	0	0
2020-06-25	158	0	0
2020-06-26	159	0	0
2020-06-27	160	0	0
2020-06-28	161	0	0
2020-06-29	162	0	0
2020-06-30	163	0	0
2020-07-01	164	0	0
2020-07-02	165	0	0
2020-07-03	166	0	0
2020-07-04	167	0	0
2020-07-05	168	0	0
2020-07-06	169	0	0
2020-07-07	170	0	0
2020-07-08	171	0	0
2020-07-09	172	0	0
2020-07-10	173	0	0
2020-07-11	174	0	0
2020-07-12	175	0	0
2020-07-13	176	0	0
2020-07-14	177	0	0
2020-07-15	178	0	0
2020-07-16	179	0	0
2020-07-17	180	0	0
2020-07-18	181	0	0
2020-07-19	182	0	0
2020-07-20	183	0	0
2020-07-21	184	0	0
2020-07-22	185	0	0
2020-07-23	186	0	0
2020-07-24	187	0	0
2020-07-25	188	0	0
2020-07-26	189	0	0
2020-07-27	190	0	0
2020-07-28	191	0	0
2020-07-29	192	0	0
2020-07-30	193	0	0
2020-07-31	194	0	0
2020-08-01	195	0	0
2020-08-02	196	0	0
2020-08-03	197	0	0
2020-08-04	198	0	0
2020-08-05	199	0	0
2020-08-06	200	0	0
2020-08-07	201	0	0
2020-08-08	202	0	0
2020-08-09	203	0	0
2020-08-10	204	0	0
2020-08-11	205	0	0
2020-08-12	206	0	0
2020-08-13	207	0	0
2020-08-14	208	0	0
2020-08-15	209	0	0
2020-08-16	210	0	0
2020-08-17	211	0	0
2020-08-18	212	0	0
2020-08-19	213	0	0
2020-08-20	214	0	0
2020-08-21	215	0	0
2020-08-22	216	0	0
2020-08-23	217	0	0
2020-08-24	218	0	0
2020-08-25	219	0	0
2020-08-26	220	0	0
2020-08-27	221	0	0
2020-08-28	222	0	0
2020-08-29	223	0	0
2020-08-30	224	0	0
2020-08-31	225	0	0
2020-09-01	226	0	0
2020-09-02	227	0	0
2020-09-03	228	0	0
2020-09-04	229	0	0
2020-09-05	230	0	0
2020-09-06	231	0	0
2020-09-07	232	0	0
2020-09-08	233	0	0
2020-09-09	234	0	0
2020-09-10	235	0	0
2020-09-11	236	0	0
2020-09-12	237	0	0
2020-09-13	238	0	0
2020-09-14	239	0	0
2020-09-15	240	0	0
2020-09-16	241	0	0
2020-09-17	242	0	0
2020-09-18	243	0	0
2020-09-19	244	0	0
2020-09-20	245	0	0
2020-09-21	246	0	0
2020-09-22	247	0	0
2020-09-23	248	0	0
2020-09-24	249	0	0
2020-09-25	250	0	0
2020-09-26	251	0	0
2020-09-27	252	0	0
2020-09-28	253	0	0
2020-09-29	254	0	0
2020-09-30	255	0	0
2020-10-01	256	0	0
2020-10-02	257	0	0
2020-10-03	258	0	0
2020-10-04	259	0	0
2020-10-05	260	0	0
2020-10-06	261	0	0
2020-10-07	262	0	0
2020-10-08	263	0	0
2020-10-09	264	0	0
2020-10-10	265	0	0
2020-10-11	266	0	0
2020-10-12	267	0	0
2020-10-13	268	0	0
2020-10-14	269	0	0
2020-10-15	270	0	0
2020-10-16	271	0	0
2020-10-17	272	0	0
2020-10-18	273	0	0
2020-10-19	274	0	0
2020-10-20	275	0	0
2020-10-21	276	0	0
2020-10-22	277	0	0
2020-10-23	278	0	0
2020-10-24	279	0	0
2020-10-25	280	0	0
2020-10-26	281	0	0
2020-10-27	282	0	0
2020-10-28	283	0	0
2020-10-29	284	0	0
2020-10-30	285	0	0
2020-10-31	286	0	0
2020-11-01	287	0	0
2020-11-02	288	0	0
2020-11-03	289	0	0
2020-11-04	290	0	0
2020-11-05	291	0	0
2020-11-06	292	0	0
2020-11-07	293	0	0
2020-11-08	294	0	0
2020-11-09	295	0	0
2020-11-10	296	0	0
2020-11-11	297	0	0
2020-11-12	298	0	0
2020-11-13	299	0	0
2020-11-14	300	0	0
2020-11-15	301	0	0
2020-11-16	302	0	0
2020-11-17	303	0	0
2020-11-18	304	0	0
2020-11-19	305	0	0
2020-11-20	306	0	0
2020-11-21	307	0	0
2020-11-22	308	0	0
2020-11-23	309	0	0
2020-11-24	310	0	0
2020-11-25	311	0	0
2020-11-26	312	0	0
2020-11-27	313	0	0
2020-11-28	314	0	0
2020-11-29	315	0	0
2020-11-30	316	0	0
2020-1			