

## Description of data

We have used web scrapping to collect data from different web pages for analyzing crime rate by location. The data used is described below.

a. Table of crime rate in year 2011 and 2012 is available in [1]

State/UT	2011	2012
India		2.8
Bihar	3.3	3.2
Arunachal Pradesh	4.7	5.8
Assam	4.2	4.4
Andhra Pradesh	3.1	3.6
Chhattisgarh	4.3	4.0
Goa	3.3	2.5
Gujarat	1.9	1.9
Haryana	4.2	3.8
Himachal Pradesh	1.9	1.6
Jammu & Kashmir	1.3	1.0
Jharkhand	5.3	5.3
Karnataka	3.0	3.1
Kerala	1.1	1.1
Madhya Pradesh	3.5	3.2
Maharashtra	2.5	2.4
Manipur	2.9	3.3
Meghalaya	2.9	5.1
Mizoram	2.4	2.9
Nagaland	2.3	3.3
Odisha	3.5	3.8
Punjab	3.0	3.0
Rajasthan	2.1	2.1
Sikkim	2.3	1.1
Tamil Nadu	2.6	2.9
Tripura	4.4	3.4
Uttar Pradesh	7.5	7.4
Uttarakhand	1.8	2.1
West Bengal	2.3	2.5
Delhi	10	5

b. Table of crime rate in year 2013 is available in [3].

**TABLE-1.6**  
**Incidence & Rate of Total Cognizable Crimes (IPC) In States, UTs & Cities During 2013**

Sl. No.	State/UT	Incidence of Total Cognizable Crimes	Percentage Contribution to All-India Total	Mid-Year Projected Population (In Lakh)**	Rate of Total Cognizable Crimes
(1)	(2)	(3)	(4)	(5)	(6)
<i>STATES:</i>					
1	ANDHRA PRADESH	218015	8.2	864.76	252.1
2	ARUNACHAL PRADESH	2776	0.1	12.74	217.9
3	ASSAM	87186	3.3	314.45	277.3
4	BIHAR	167455	6.3	1007.15	166.3
5	CHHATTISGARH	56870	2.1	250.18	227.3
6	GOA	4312	0.2	18.85	228.8
7	GUJARAT	157435	5.9	608.28	258.8
8	HARYANA	72098	2.7	264.05	273.0
9	HIMACHAL PRADESH	13750	0.5	69.39	198.2
10	JAMMU & KASHMIR	25390	1.0	120.59	210.5
11	JHARKHAND	48208	1.8	324.79	148.4
12	KARNATAKA	136689	5.2	608.24	224.7
13	KERALA	176334	6.7	351.11	502.2
14	MADHYA PRADESH	227453	8.6	748.65	303.8
15	MAHARASHTRA	234385	8.9	1162.06	201.7
16	MANIPUR	3178	0.1	25.16	126.3
17	MEGHALAYA	3259	0.1	26.92	121.1
18	MIZORAM	1709	0.1	10.32	165.6
19	NAGALAND	1216	0.0	23.10	52.6
20	ODISHA	71718	2.7	415.69	172.5
21	PUNJAB	36667	1.4	283.79	129.2
22	RAJASTHAN	196224	7.4	702.93	279.2
23	SIKKIM	851	0.0	6.29	135.3
24	TAMIL NADU	203579	7.7	683.99	297.6
25	TRIPURA	6210	0.2	37.14	167.2
26	UTTAR PRADESH	226445	8.6	2089.15	108.4
27	UTTARAKHAND	9546	0.4	102.71	92.9
28	WEST BENGAL	169535	6.4	913.92	185.5
<b>TOTAL (STATES)</b>		<b>2558493</b>	<b>96.6</b>	<b>12046.40</b>	<b>212.4</b>
<i>UNION TERRITORIES</i>					
29	A & N ISLANDS	612	0.0	5.25	116.6
30	CHANDIGARH	4077	0.2	16.05	254.0
31	D & N HAVELI	314	0.0	3.92	80.1
32	DAMAN & DIU	246	0.0	2.97	82.8
33	DELHI	80184	3.0	197.14	406.7
34	LAKSHADWEEP	40	0.0	0.78	51.3
35	PUDUCHERRY	3756	0.1	15.34	244.9
<b>TOTAL (UTs)</b>		<b>89229</b>	<b>3.4</b>	<b>241.45</b>	<b>369.6</b>

c. Table of crime rate in year 2014, 2015 and 2016 is available in [2].

S.No *	State/UT *	2014 *	2015 *	2016 *	Percentage Share of State/UT (2016) <sup>[3]</sup> *	Rank Based on Incidence / % share (2016) *	Rate of Cognizable Crimes (2016) *	Rank Based on Crime Rate (2016) *
1	Andhra Pradesh	114604	110693	106774	3.6	13	206.4	15
2	Arunachal Pradesh	2843	2988	2534	0.1	29	192.3	17
3	Assam	94337	103616	102250	3.4	14	313.9	5
4	Bihar	177595	176973	164163	5.5	9	157.4	22
5	Chhattisgarh	58200	56892	55029	1.8	17	211.7	14
6	Goa	4466	3074	2892	0.1	28	135.6	25
7	Gujarat	131385	126935	147122	4.9	11	233.2	11
8	Haryana	79947	84466	88527	3.0	15	320.6	4
9	Himachal Pradesh	14180	14007	13386	0.4	21	188.1	20
10	Jammu and Kashmir	23848	23583	24501	0.8	20	196.6	16
11	Jharkhand	45335	45050	40710	1.4	18	120.4	30
12	Karnataka	137338	138847	146402	5.0	10	237.2	10
13	Kerala	206789	257074	260097	8.7	4	727.6	2
14	Madhya Pradesh	272423	268814	264418	8.9	2	337.9	3
15	Maharashtra	249834	275414	261714	8.8	3	217.1	13
16	Manipur	3641	3647	3170	0.1	26	121.9	28
17	Meghalaya	3679	4079	3366	0.1	25	120.9	29
18	Mizoram	2140	2228	2425	0.1	30	227.3	12
19	Nagaland	1157	1302	1376	0.0	31	57.6	34
20	Odisha	74589	83380	81480	2.7	16	191.3	18
21	Punjab	37162	37983	40007	1.3	19	137.0	24
22	Rajasthan	210418	198080	180398	6.1	6	246.2	8
23	Sikkim	1065	766	809	0.0	32	124.47	27
24	Tamil Nadu	193200	187556	179896	6.0	7	258.8	7
25	Telangana	108830	106282	108991	3.7	12	295.7	6
26	Tripura	5499	4892	3933	0.1	24	102.4	31
27	Uttar Pradesh	240475	241920	262171	9.5	1	128.7	26
28	Uttarakhand	9156	10248	10867	0.4	22	101.8	32
29	West Bengal	185672	179501	176599	5.9	8	188.2	19
30	Andaman and Nicobar Islands	746	882	802	0.0	33	144.8	23
31	Chandigarh	3221	3248	2996	0.1	27	166.4	21
32	Dadra and Nagar Haveli	277	289	244	0.0	35	57.4	35
33	Daman and Diu	233	302	271	0.0	34	81.1	33
34	Delhi	155854	191377	209519	7.0	5	974.9	1
35	Lakshwadeep	81	50	36	0.0	36	43.9	36
36	Puducherry	3584	3440	4086	0.1	23	242.8	9

- d. These tables are separately available on different web pages. So, we create our own dataset by web scraping and merging these table.

	State	2011	2012	2013	2014	2015	2016	mean	lat	lng
0	Andhra Pradesh	3.1	3.6	8.2	1.15	1.11	1.07	3.04	15.924091	80.186381
1	Arunachal Pradesh	4.7	5.8	0.1	0.03	0.03	0.03	1.78	28.364199	94.758627
2	Assam	4.2	4.4	3.3	0.94	1.04	1.02	2.48	26.407384	93.255130
3	Bihar	3.3	3.2	6.3	1.78	1.77	1.64	3.00	25.644085	85.906508
4	Chhattisgarh	4.3	4.0	2.1	0.58	0.57	0.55	2.02	21.663736	81.840635
5	Delhi	10.0	5.0	13.0	1.56	1.91	2.10	5.59	28.651718	77.221939
6	Goa	3.3	2.5	0.2	0.04	0.03	0.03	1.02	15.300454	74.085513
7	Gujarat	1.9	1.9	5.9	1.31	1.27	1.47	2.29	22.413424	71.498674
8	Haryana	4.2	3.8	2.7	0.80	0.84	0.89	2.20	29.000000	76.000000
9	Himachal Pradesh	1.9	1.6	0.5	0.14	0.14	0.13	0.74	31.929235	77.182846
10	Jammu & Kashmir	1.3	1.0	1.0	0.24	0.24	0.25	0.67	34.047656	76.797289
11	Jharkhand	5.3	5.3	1.8	0.45	0.45	0.41	2.29	23.455981	85.255730
12	Karnataka	3.0	3.1	5.2	1.37	1.39	1.48	2.59	14.520390	75.722352
13	Kerala	1.1	1.1	6.7	2.07	2.57	2.60	2.69	10.352959	76.511975
14	Madhya Pradesh	3.5	3.2	8.6	2.72	2.69	2.64	3.89	23.814342	77.534072
15	Maharashtra	2.5	2.4	8.9	2.50	2.75	2.62	3.61	19.531932	76.055457
16	Manipur	2.9	3.3	0.1	0.04	0.04	0.03	1.07	24.720882	93.922939
17	Meghalaya	2.9	5.1	0.1	0.04	0.04	0.03	1.37	25.537943	91.299910
18	Mizoram	2.4	2.9	0.1	0.02	0.02	0.02	0.91	23.214617	92.868761
19	Nagaland	2.3	3.3	0.0	0.01	0.01	0.01	0.94	26.163056	94.588491
20	Odisha	3.5	3.8	2.7	0.75	0.83	0.81	2.07	20.543124	84.689732
21	Punjab	3.0	3.0	1.4	0.37	0.38	0.40	1.43	30.929321	75.500484
22	Rajasthan	2.1	2.1	7.4	2.10	1.98	1.80	2.91	26.810578	73.768455
23	Sikkim	2.3	1.1	0.0	0.01	0.01	0.01	0.57	27.601029	88.454136
24	Tamil Nadu	2.6	2.9	7.7	1.93	1.88	1.80	3.13	10.909433	78.366535
25	Tripura	4.4	3.4	0.2	0.05	0.05	0.04	1.36	23.775082	91.702509
26	Uttar Pradesh	7.5	7.4	8.6	2.40	2.42	2.82	5.19	27.130334	80.859666
27	Uttarakhand	1.8	2.1	0.4	0.09	0.10	0.11	0.77	30.041738	79.089691
28	West Bengal	2.3	2.5	6.4	1.86	1.80	1.77	2.77	22.996495	87.685588

Column with mean attribute is the average crime rate for different states in these years.

Column with lat and lng attributes are the latitude and longitude value for different states. We calculated these calling foursquare agent.

## **References:**

1. [https://en.wikipedia.org/wiki/Crime\\_in\\_India](https://en.wikipedia.org/wiki/Crime_in_India)
2. [https://en.wikipedia.org/wiki/List\\_of\\_states\\_and\\_union\\_territories\\_of\\_India\\_by\\_crime\\_rate](https://en.wikipedia.org/wiki/List_of_states_and_union_territories_of_India_by_crime_rate)
3. NCRB-2013\_1556903701051.pdf