

Traffic Telligence:Advanced Traffic
volume Estimation Wiyh Machine
Learning

By

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Data Collection & Preparation

DL depends heavily on data. It is the most crucial aspect that makes algorithm training possible. So, this section allows you to download the required dataset.

Collection Of The Dataset

There are many popular open sources for collecting the data. Eg: kaggle.com, UCI repository, etc.

In this project, we have used .csv data. This data is downloaded from kaggle.com. Please refer to the link given below to download the dataset.

As the dataset is downloaded. Let us read and understand the data properly with the help of some visualization techniques and some analyzing techniques.

Note: There are a number of techniques for understanding the data. But here we have used some of it. In an additional way, you can use multiple techniques.

DATASETS :

holiday	temp	ra in	snow	weather	date	Time	traffic_volume
None	288.28	0	0	Clouds	02-10-2012	09:00:00	5545
None	289.36	0	0	Clouds	02-10-2012	10:00:00	4516
None	289.58	0	0	Clouds	02-10-2012	11:00:00	4767
None	290.13	0	0	Clouds	02-10-2012	12:00:00	5026
None	291.14	0	0	Clouds	02-10-2012	13:00:00	4918
None	291.72	0	0	Clear	02-10-2012	14:00:00	5181
None	293.17	0	0	Clear	02-10-2012	15:00:00	5584
None	293.86	0	0	Clear	02-10-2012	16:00:00	6015
None	294.14	0	0	Clouds	02-10-2012	17:00:00	5791
None	293.1	0	0	Clouds	02-10-2012	18:00:00	4770

None	290.97	0	0	Clouds	02-10-2012	19:00:00	3539
None	289.38	0	0	Clear	02-10-2012	20:00:00	2784
None	288.61	0	0	Clear	02-10-2012	21:00:00	2361
None	287.16	0	0	Clear	02-10-2012	22:00:00	1529
None	285.45	0	0	Clear	02-10-2012	23:00:00	963
None	284.63	0	0	Clear	03-10-2012	00:00:00	506
None	283.47	0	0	Clear	03-10-2012	01:00:00	321
None	281.18	0	0	Clear	03-10-2012	02:00:00	273
None	281.09	0	0	Clear	03-10-2012	03:00:00	367
None	279.53	0	0	Clear	03-10-2012	04:00:00	814
None	278.62	0	0	Clear	03-10-2012	05:00:00	2718
None	278.23	0	0	Clear	03-10-2012	06:00:00	5673
None	278.12	0	0	Clear	03-10-2012	08:00:00	6511
None		0	0	Clear	03-10-2012	09:00:00	5471
None	291.97	0	0	Clear	03-10-2012	12:00:00	5097
None	293.23	0	0	Clear	03-10-2012	13:00:00	4887
None	294.31	0	0	Clear	03-10-2012	14:00:00	5337
None	295.17	0	0	Clear	03-10-2012	15:00:00	5692
None	295.13	0	0	Clear	03-10-2012	16:00:00	6137
None		0	0	Clouds	03-10-2012	18:00:00	4623
None	290.65	0	0	Clouds	03-10-2012	19:00:00	3591
None	288.19	0	0	Clouds	03-10-2012	20:00:00	2898
None	287.1	0	0	Clear	03-10-2012	21:00:00	2637
None	286.25	0	0	Clear	03-10-2012	22:00:00	1777
None	285.26	0	0	Clear	03-10-2012	23:00:00	1015
None	284.55	0	0	Clear	04-10-2012	00:00:00	598
None	283.47	0	0	Clear	04-10-2012	01:00:00	369
None	283.17	0	0	Clear	04-10-2012	02:00:00	312
None	282.04	0	0	Clear	04-10-2012	03:00:00	367
None	281.69	0	0	Clear	04-10-2012	04:00:00	835
None	281.32	0	0	Clear	04-10-2012	05:00:00	2726
None	280.74	0	0	Clear	04-10-2012	06:00:00	5689
None	280.57	0	0	Clear	04-10-2012	07:00:00	6990

None		0	0	Clear	04-10-2012	08:00:00	5985
None	284.98	0	0	Clear	04-10-2012	09:00:00	5309
None	289.18	0	0	Clear	04-10-2012	10:00:00	4603
None	291.55	0	0	Clear	04-10-2012	11:00:00	4884
None	294.97	0	0	Clear	04-10-2012	12:00:00	5104
None	296.38	0	0	Clear	04-10-2012	13:00:00	5178
None	297.32	0	0	Clear	04-10-2012	14:00:00	5501
None	298.17	0	0	Clear	04-10-2012	15:00:00	5713
None	298.06	0	0	Clouds	04-10-2012	16:00:00	6292
None	297.67	0	0	Clouds	04-10-2012	17:00:00	6057
None	296.36	0	0	Clouds	04-10-2012	18:00:00	4907
None	293.85	0	0	Clouds	04-10-2012	19:00:00	3503
None	292.43	0	0	Clouds	04-10-2012	20:00:00	3037
None	291.77	0	0	Clouds	04-10-2012	21:00:00	2822
None		0	0	Clouds	04-10-2012	22:00:00	1992
None	291.12	0	0	Clouds	04-10-2012	23:00:00	1166
None	290.63	0	0	Clouds	05-10-2012	00:00:00	627
None	290.46	0	0	Clouds	05-10-2012	01:00:00	388
None	289.26	0	0	Clear	05-10-2012	03:00:00	368
None	283.21	0	0	Clouds	05-10-2012	05:00:00	2489
None	282.24	0	0	Clouds	05-10-2012	06:00:00	5537
None	281.69	0	0	Clouds	05-10-2012	07:00:00	6628
None	280.57	0	0	Clouds	05-10-2012	08:00:00	5534
None	280.02	0	0	Clouds	05-10-2012	09:00:00	5403
None	280.11	0	0	Clouds	05-10-2012	10:00:00	4770
None	280	0	0	Clouds	05-10-2012	11:00:00	5217
None	280.53	0	0	Clouds	05-10-2012	12:00:00	5870
None	281.43	0	0	Clouds	05-10-2012	13:00:00	5967
None	281.78	0	0	Clouds	05-10-2012	14:00:00	6108
None		0	0	Clouds	05-10-2012	15:00:00	6128
None	281.73	0	0	Clouds	05-10-2012	16:00:00	6069
None	281.42	0	0	Clouds	05-10-2012	17:00:00	6169
None	280.87	0	0	Clouds	05-10-2012	18:00:00	5384

None	280.15	0	0	Clouds	05-10-2012	19:00:00	4063
None	279.78	0	0	Clouds	05-10-2012	20:00:00	3364
None	279.65	0	0	Clouds	05-10-2012	21:00:00	2971
None	279.22	0	0	Clouds	05-10-2012	22:00:00	2450
None	279.06	0	0	Clouds	05-10-2012	23:00:00	1832
None		0	0	Clouds	06-10-2012	00:00:00	1231
None	278.55	0	0	Clouds	06-10-2012	01:00:00	718
None	278.59	0	0	Clouds	06-10-2012	02:00:00	545
None	276.99	0	0	Clouds	06-10-2012	04:00:00	411
None	276.35	0	0	Clouds	06-10-2012	05:00:00	688
None	275.4	0	0	Clear	06-10-2012	06:00:00	1352
None	275.17	0	0	Clear	06-10-2012	07:00:00	2072
None	274.99	0	0	Clear	06-10-2012	08:00:00	3342
None	275.09	0	0	Clouds	06-10-2012	09:00:00	4258
None	276.88	0	0	Clouds	06-10-2012	10:00:00	4861
None	278.04	0	0	Clouds	06-10-2012	11:00:00	5191
None	279.08	0	0	Clouds	06-10-2012	12:00:00	5669
None	280.12	0	0	Clouds	06-10-2012	13:00:00	5074
None	280.25	0	0	Clouds	06-10-2012	14:00:00	5025
None	280	0	0	Clouds	06-10-2012	15:00:00	5153
None		0	0	Clouds	06-10-2012	16:00:00	5024
None	278.91	0	0	Clouds	06-10-2012	17:00:00	4779
None	278.39	0	0	Clouds	06-10-2012	18:00:00	4362

holiday	temp	rain	snow	weather	date	Time	traffic_volume
None		278.39	00	Clouds	06-10-2012	18:00:00	4362
None		278.16	00	Clouds	06-10-2012	19:00:00	3860
None		278.16	00	Clouds	06-10-2012	19:00:00	3860
None		278.19	00	Clouds	06-10-2012	19:00:00	3860
None		278.16	00	Clouds	06-10-2012	19:00:00	3860

None	278.1 6 0 0	Cloud s	06-10- 2012	20:00:0 0	316 0
None	277.9 3 0 0	Cloud s	06-10- 2012	21:00:0 0	299 2
None	276.9 0 0 0	Cloud s	06-10- 2012	22:00:0 0	320 2
None	276.3 4 0 0	Cloud s	06-10- 2012	23:00:0 0	194 1
None	276.1 1 0 0	Cloud s	07-10- 2012	00:00:0 0	123 3
None	275.7 3 0 0	Cloud s	07-10- 2012	03:00:0 0	323
None	275.6 5 0 0	Cloud s	07-10- 2012	04:00:0 0	312
None	275.5 1 0 0	Cloud s	07-10- 2012	05:00:0 0	627
None	275.0 5 0 0	Cloud s	07-10- 2012	06:00:0 0	150 8
None	274.7 7 0 0	Cloud s	07-10- 2012	07:00:0 0	153 9
None	274.7 7 0 0	Cloud s	07-10- 2012	08:00:0 0	223 2
None	275.5 5 0 0	Cloud s	07-10- 2012	09:00:0 0	456 8
None	276.2 4 0 0	Cloud s	07-10- 2012	10:00:0 0	462 4
None	277.0 1 0 0	Cloud s	07-10- 2012	11:00:0 0	452 9
None	277.4 3 0 0	Cloud s	07-10- 2012	12:00:0 0	513 9
None	278.4 5 0 0	Cloud s	07-10- 2012	13:00:0 0	664 0
None	279.2 7 0 0	Cloud s	07-10- 2012	14:00:0 0	658 9
None	0 0 0	Cloud s	07-10- 2012	15:00:0 0	442 9
None	279.4 4 0 0	Cloud s	07-10- 2012	16:00:0 0	432 9
None	279.3 2 0 0	Cloud s	07-10- 2012	17:00:0 0	383 3
None	279.2 7 0 0	Cloud s	07-10- 2012	18:00:0 0	401 5
None	278.1 1 0 0	Cloud s	07-10- 2012	19:00:0 0	338 2
None	276.7 9 0 0	Cloud s	07-10- 2012	20:00:0 0	281 5
None	275.7 3 0 0	Cloud s	07-10- 2012	21:00:0 0	211 0

None	274.8 8 0 0	Cloud s	07-10- 2012	22:00:0 0	155 5
None	273.9 2 0 0	Cloud s	07-10- 2012	23:00:0 0	959
Columbus Day	273.0 8 0 0	Cloud s	08-10- 2012	00:00:0 0	455
None	272.6 2 0 0	Cloud s	08-10- 2012	01:00:0 0	336
None	271.7 8 0 0	Clear	08-10- 2012	02:00:0 0	265
None	0 0 0	Clear	08-10- 2012	03:00:0 0	314
None	270.6 3 0 0	Clear	08-10- 2012	04:00:0 0	779
None	270.3 3 0 0	Clear	08-10- 2012	05:00:0 0	257 1
None	269.6 1 0 0	Cloud s	08-10- 2012	06:00:0 0	556 3
None	270.0 1 0 0	Cloud s	08-10- 2012	07:00:0 0	667 6
None	271.2 3 0 0	Cloud s	08-10- 2012	08:00:0 0	596 6
None	273.7 1 0 0	Cloud s	08-10- 2012	09:00:0 0	483 2
None	276.7 7 0 0	Cloud s	08-10- 2012	10:00:0 0	439 5
None	279.4 7 0 0	Cloud s	08-10- 2012	11:00:0 0	441 1
None	279.8 4 0 0	Clear	08-10- 2012	12:00:0 0	464 8
None	282.3 4 0 0	Cloud s	08-10- 2012	13:00:0 0	460 2
None	282.9 4 0 0	Cloud s	08-10- 2012	14:00:0 0	512 5
None	283.4 8 0 0	Clear	08-10- 2012	15:00:0 0	550 2
None	284.3 3 0 0	Clear	08-10- 2012	16:00:0 0	597 9
None	284.4 8 0 0	Cloud s	08-10- 2012	17:00:0 0	566 3
None	284.2 3 0 0	Cloud s	08-10- 2012	18:00:0 0	425 9
None	281.9 9 0 0	Cloud s	08-10- 2012	19:00:0 0	306 9
None	279.8 1 0 0	Clear	08-10- 2012	20:00:0 0	237 8
None	279.3 5 0 0	Clear	08-10- 2012	21:00:0 0	203 0

None	278.9	0	0	Clear	08-10-2012	22:00:00	1400
None	278.46	0	0	Clear	08-10-2012	23:00:00	917
None		0	0	Clear	09-10-2012	00:00:00	515
None	277.27	0	0	Clear	09-10-2012	01:00:00	302
None	277.47	0	0	Clear	09-10-2012	02:00:00	251
None	276.97	0	0	Clouds	09-10-2012	04:00:00	798
None	276.52	0	0	Clouds	09-10-2012	05:00:00	2678
None	276.6	0	0	Clouds	09-10-2012	06:00:00	5733
None	277.31	0	0	Clouds	09-10-2012	07:00:00	6449
None	278.38	0	0	Clouds	09-10-2012	08:00:00	5765
None	279.35	0	0	Clouds	09-10-2012	09:00:00	5599
None	281.37	0	0	Clouds	09-10-2012	10:00:00	4534
None	283.11	0	0	Clouds	09-10-2012	11:00:00	4691
None	284.08	0	0	Clouds	09-10-2012	12:00:00	5067
None	285.14	0	0	Clouds	09-10-2012	13:00:00	5030
None	286.35	0	0	Clouds	09-10-2012	14:00:00	5300
None	287.23	0	0	Rain	09-10-2012	15:00:00	5777
None		0	0	Clouds	09-10-2012	16:00:00	6349
None	290.37	0	0	Clouds	09-10-2012	17:00:00	6127
None	290.13	0	0	Clouds	09-10-2012	18:00:00	4460
None	288.86	0	0	Clouds	09-10-2012	19:00:00	3418
None	287.36	0	0	Clouds	09-10-2012	20:00:00	2775
None	285.11	0	0	Clouds	09-10-2012	21:00:00	2306
None	283.46	0	0	Clouds	09-10-2012	22:00:00	1846

None	282.4 5 0 0	Cloud s	09-10- 2012	23:00:0 0	947
None	281.8 8 0 0	Cloud s	10-10- 2012	00:00:0 0	494
None	281.7 8 0 0	Cloud s	10-10- 2012	01:00:0 0	332
None	281.0 9 0 0	Cloud s	10-10- 2012	02:00:0 0	261
None	281.1 7 0 0	Cloud s	10-10- 2012	03:00:0 0	361
None	281.2 5 0 0	Clear	10-10- 2012	06:00:0 0	587 5
None	281.2 5 0 0	Rain	10-10- 2012	07:00:0 0	679 3
None	281.2 5 0 0	Drizzle	10-10- 2012	07:00:0 0	679 3
None	280.1 0 0 0	Rain	10-10- 2012	08:00:0 0	628 3
None	280.1 0 0 0	Drizzle	10-10- 2012	08:00:0 0	628 3
None	279.6 1 0 0	Rain	10-10- 2012	09:00:0 0	568 0
None	0 0 0	Drizzle	10-10- 2012	09:00:0 0	568 0
None	0 0 0	Clear	10-10- 2012	10:00:0 0	463 2
None	280.1 9 0 0	Clear	10-10- 2012	11:00:0 0	488 7
None	282.0 9 0 0	Cloud s	10-10- 2012	12:00:0 0	503 0
None	282.2 6 0 0	Cloud s	10-10- 2012	13:00:0 0	506 7
None	282.0 5 0 0	Cloud s	10-10- 2012	14:00:0 0	522 7
None	281.5 9 0 0	Cloud s	10-10- 2012	15:00:0 0	561 0
None	281.2 3 0 0	Clear	10-10- 2012	16:00:0 0	628 6
None	282.6 0 0 0	Clear	10-10- 2012	18:00:0 0	477 5
None	282.6 0 0 0	Clear	10-10- 2012	19:00:0 0	334 0
None	282.6 0 0 0	Clear	10-10- 2012	20:00:0 0	301 3
None	282.6 0 0 0	Clear	10-10- 2012	21:00:0 0	260 3
None	282.6 0 0 0	Clear	10-10- 2012	22:00:0 0	191 0

None	282.6	0	0	Clear	10-10-2012	23:00:00	1037	
None	273.9	0	0	Clear	11-10-2012	01:00:00	347	
None	274.4	0	0	Clouds	11-10-2012	03:00:00	350	
None	273.9	0	0	Clear	11-10-2012	01:00:00	347	
None	274.4	0	0	Clouds	11-10-2012	03:00:00	350	