BI Project Presentation

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Semester - V
Batch 56

Let's

Here we go!

What is data

Here, the data is about the Output Yielded of two Solar Power Generation

Exploring and Cleaning Data

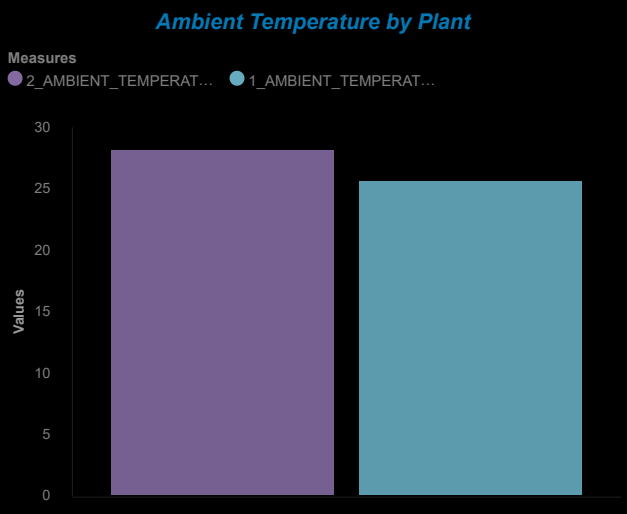
- I have the data of weather (of each Plant) and the Power generated (from each Plant).
- I have cleaned this data by:
  - Replacing NA values with average value or 0 as and when required.
  - Combined all the datasets with the concept of foreign key.
  - Changed the format of Date and Time as required.

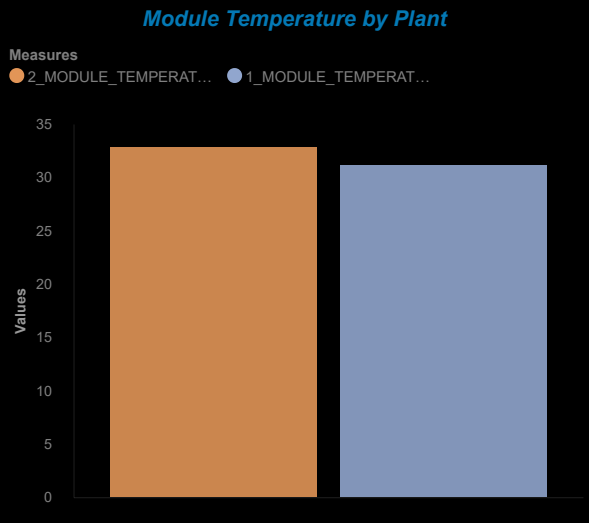
Why am I here?

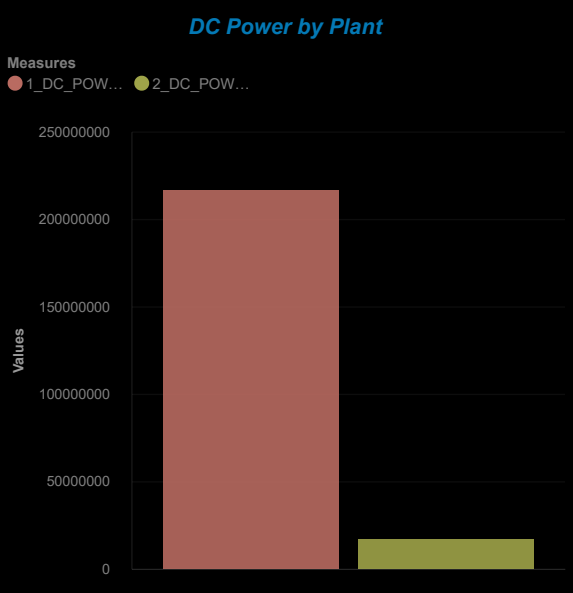
To identify damaged or faulty performing equipment for generation of Solar Power

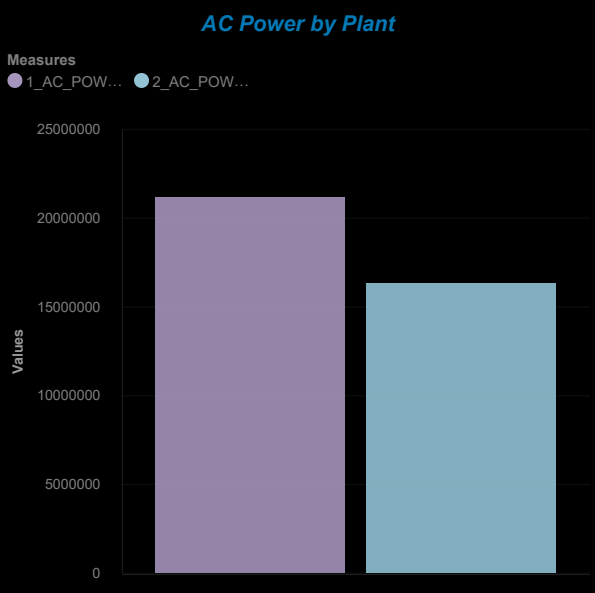
Understanding differences between two plants of Solar Power Generation

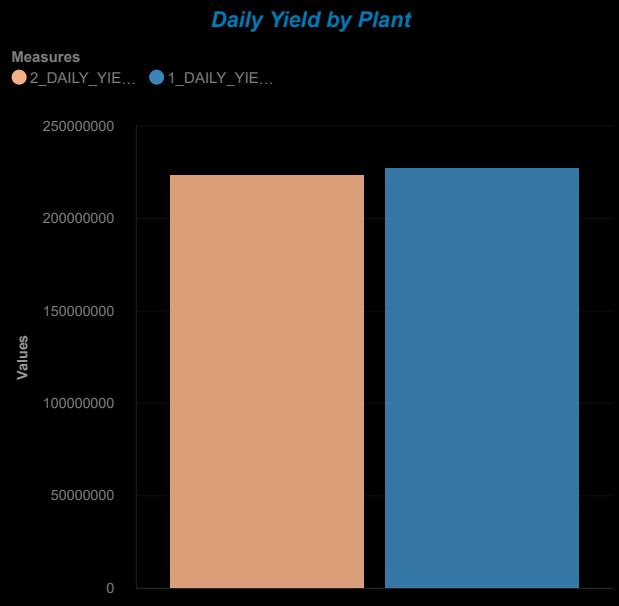
Temperature

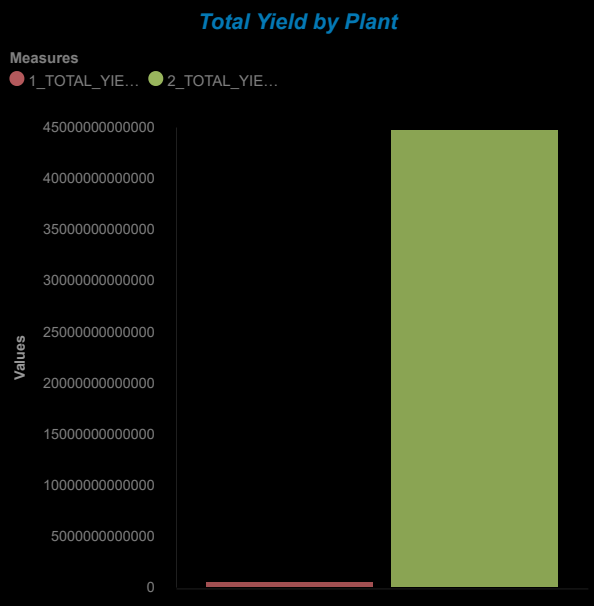




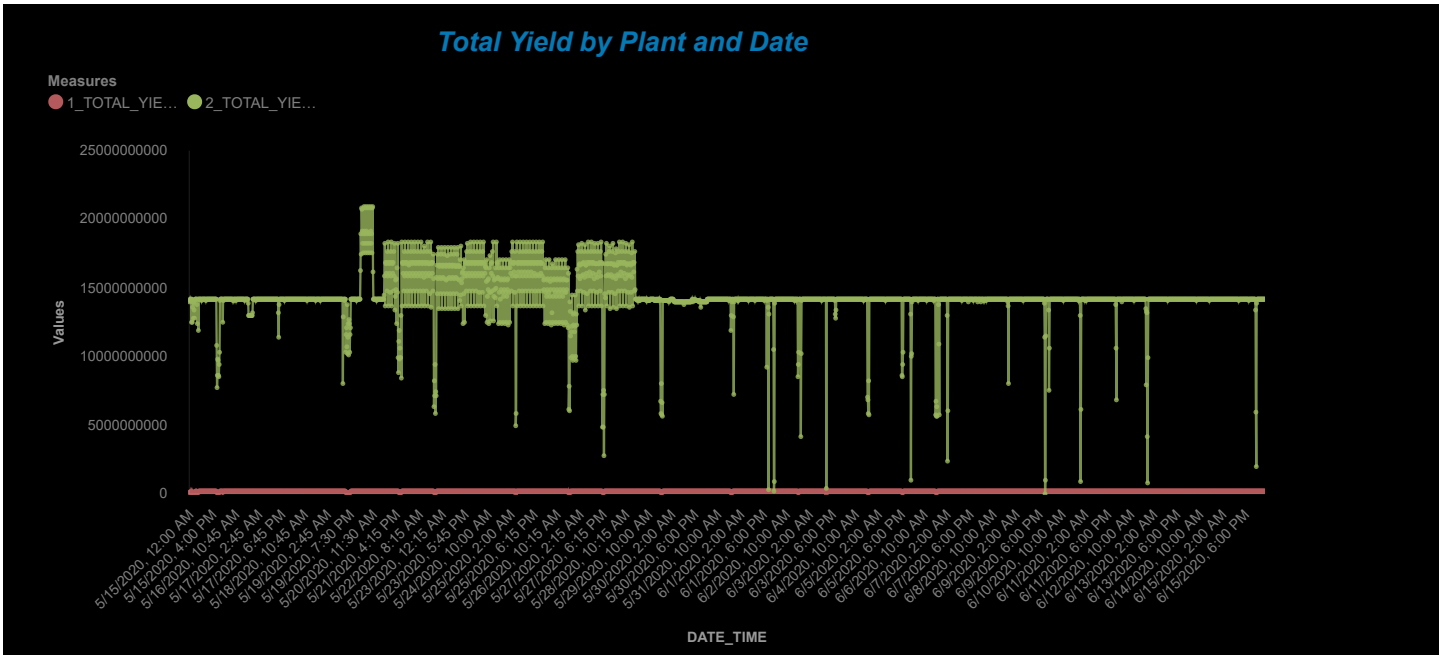

DC Power by Plant
Measures
1_DC_POW…
2_DC_POW…
250000000
200000000
150000000
100000000
50000000
0
Values


AC Power by Plant
Measures
1_AC_POW…
2_AC_POW…
25000000
20000000
15000000
10000000
5000000
0
Values


Daily Yield by Plant
Measures
2_DAILY_YIE…
1_DAILY_YIE…
250000000
200000000
150000000
100000000
50000000
0
Values


Total Yield by Plant
Measures
1_TOTAL_YIE…
2_TOTAL_YIE…
45000000000000
40000000000000
35000000000000
30000000000000
25000000000000
20000000000000
15000000000000
10000000000000
5000000000000
0
Values

Insights???

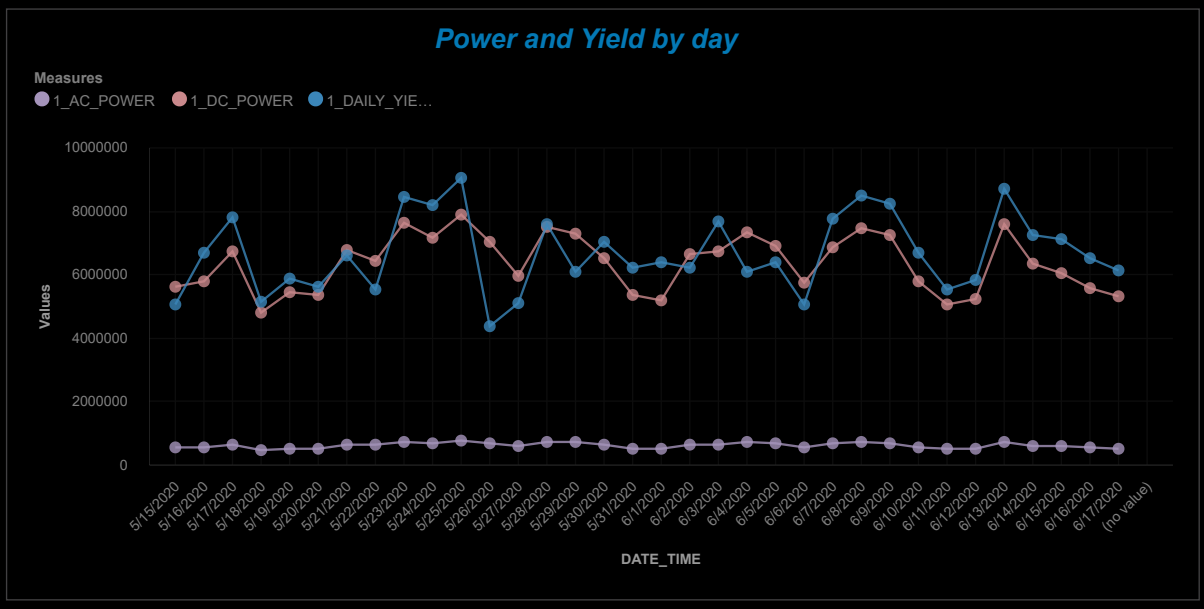

Total Yield by Plant and Date
Measures
1_TOTAL_YIE…
2_TOTAL_YIE…
25000000000
20000000000
15000000000
10000000000
5000000000
0
Values
5/15/2020, 12:00 AM
5/15/2020, 4:00 PM
5/16/2020, 10:45 AM
5/17/2020, 2:45 AM
5/17/2020, 6:45 PM
5/18/2020, 10:45 AM
5/19/2020, 2:45 AM
5/20/2020, 7:30 PM
5/21/2020, 11:30 AM
5/22/2020, 4:15 PM
5/23/2020, 8:15 AM
5/24/2020, 12:15 AM
5/25/2020, 5:45 PM
5/26/2020, 2:00 AM
5/27/2020, 6:15 PM
5/28/2020, 10:15 AM
5/29/2020, 2:15 AM
5/30/2020, 6:15 PM
5/31/2020, 10:00 AM
6/1/2020, 2:00 AM
6/2/2020, 6:00 PM
6/3/2020, 10:00 AM
6/4/2020, 2:00 AM
6/5/2020, 6:00 PM
6/6/2020, 10:00 AM
6/7/2020, 2:00 AM
6/8/2020, 6:00 PM
6/9/2020, 10:00 AM
6/10/2020, 2:00 AM
6/11/2020, 6:00 PM
6/12/2020, 10:00 AM
6/13/2020, 2:00 AM
6/14/2020, 6:00 PM
6/15/2020, 10:00 AM
6/15/2020, 2:00 AM
6/15/2020, 6:00 PM
DATE_TIME

Observed??

We see the distinct peaks in power output and temperature.

We can also see in the comparisons between plant 1 and plant 2, that for plant 1 TOTAL_YIELD is consistently > ~10^6 whilst for plant 2 TOTAL_YIELD varies dramatically with several interludes where it falls to zero and at other times in the 10^6 - >10^8 range.

Daily weather trends on the other hand appear seems

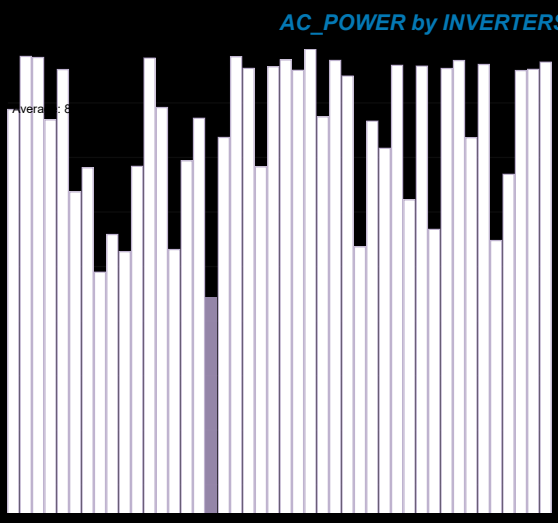

Power and Yield by day
Measures
1_AC_POWER
1_DC_POWER
1_DAILY_YIE...
10000000
8000000
6000000
4000000
2000000
0
Values
5/15/2020
5/16/2020
5/17/2020
5/18/2020
5/19/2020
5/20/2020
5/21/2020
5/22/2020
5/23/2020
5/24/2020
5/25/2020
5/26/2020
5/27/2020
5/28/2020
5/29/2020
5/30/2020
5/31/2020
6/1/2020
6/2/2020
6/3/2020
6/4/2020
6/5/2020
6/6/2020
6/7/2020
6/8/2020
6/9/2020
6/10/2020
6/11/2020
6/12/2020
6/13/2020
6/14/2020
6/15/2020
6/16/2020
6/17/2020
(no value)
DATE_TIME

Got that right or not?

The main output or AC Power generated is 10% of DC Power. In other words, the conversion rate of DC Power to AC Power

by Inverters in both the plants is 10%!!!

What About Inverters, what amount of AC Power they actually generate?!

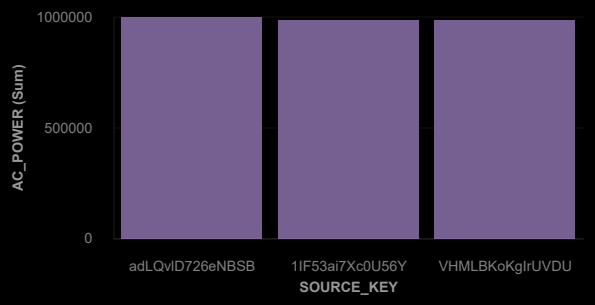

AC_POWER by INVERTERS

Is there any Inverter which is faulty or slow??

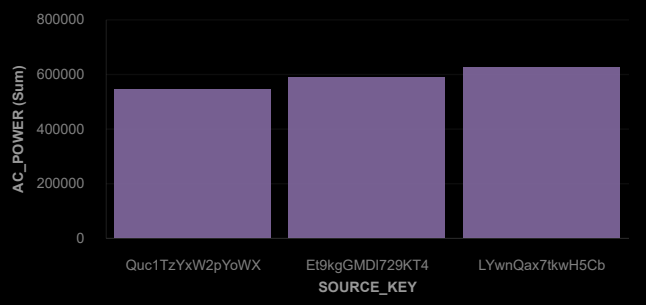
Which are the best Inverters to generate Solar Power?

Here we are!

3 Best Inverters



3 Worst Inverters

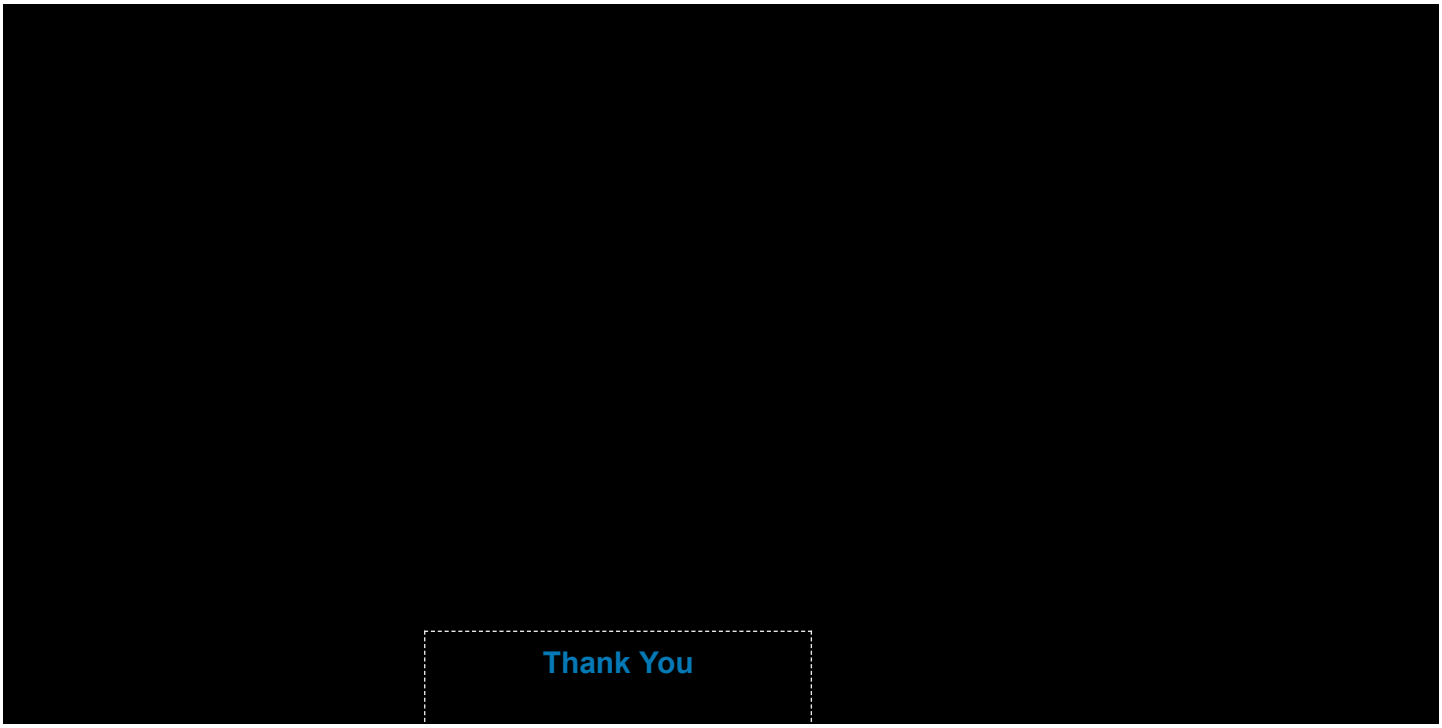


Filter(s) applied to the visualization(s) on the previous page:

Widget 1
AC_POWER Top 3

Widget 2
AC_POWER Bottom 3

Take actions based on insights and then Enjoy!


Thank You