TrendMiner: Embedded Notebooks & Machine Learning model tags

Bringing the Data Scientist In the Loop

TrendMiners Embedded Notebooks closes the gap between the Process Experts and Data Scientist through seamless integration of Python notebooks within the TrendMiner application.

About

The vision behind the TrendMiner Data Analytics platform has always been to provide the process and asset expert with robust self-service analytics capabilities to make these personas Analytics Enabled. Over the years, these analytics enabled engineers have shown an increased interest in going even beyond that level of analytics maturity, further closing the gap with the data scientist in central troubleshooting groups.

For this Analytics Expert user persona, we're now introducing python notebook functionality embedded within TrendMiner to offer a more advanced experience beyond the robust built-in functionalities TrendMiner is known for, including capabilities to operationalise the data science results to the entire organisation as visualisations on a dashboard or as virtual tags with historical and live-updating data values.

Offering

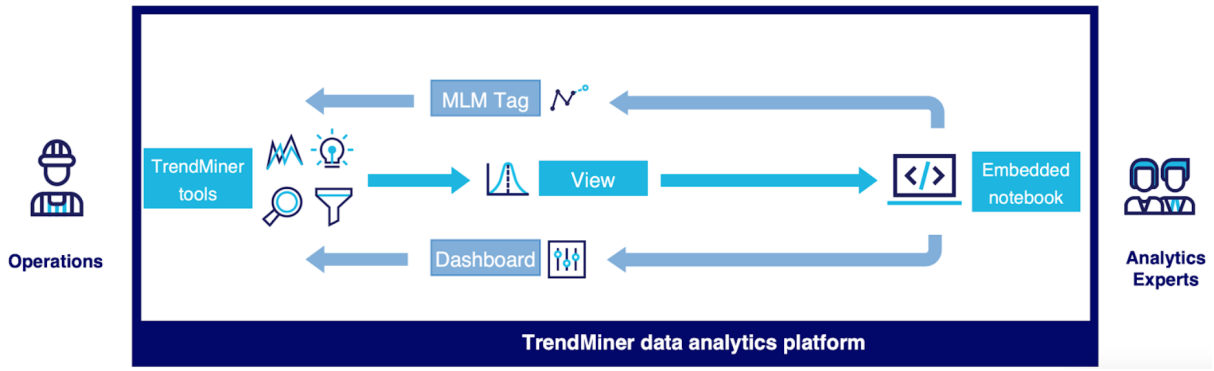
Embedded Python Notebooks: Provide users a tool to work with a data-set prepared in Trendminer inside a Python environment that is supported by the well-known libraries and packages such as Pandas, NumPy, SciPy and SciKit-Learn.

Advanced Visualisations	**Enhanced Analytics**	**Machine Learning**
• Histograms • Boxplots • Heatmaps • Parallel Coordinates	• SPC Charts • Statistical Analytics • Reporting •	• Predictions • Anomaly Detection • PCA • Classifications

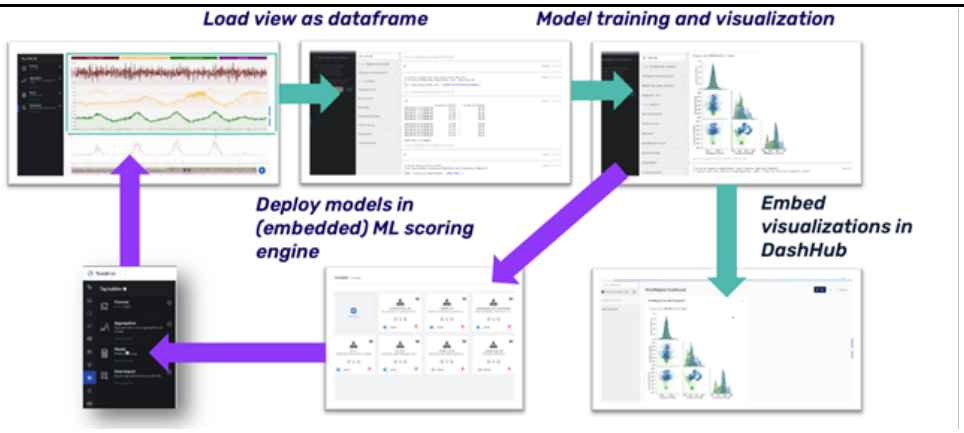
Notebook tiles: Enhance your DashHub dashboards by embedding your visualizations or results inside a DashHub Notebook tile empowering others in the organisation to get even better insights.

Machine Learning Model (MLM) tags: Deploy and operationalise your models as a Machine Learning Model (MLM) tag inside TrendMiner. The MLM tags act as any other tag in TrendMiner and can thus be used in any other TrendMiner functionality such as searches, monitoring,....

Process



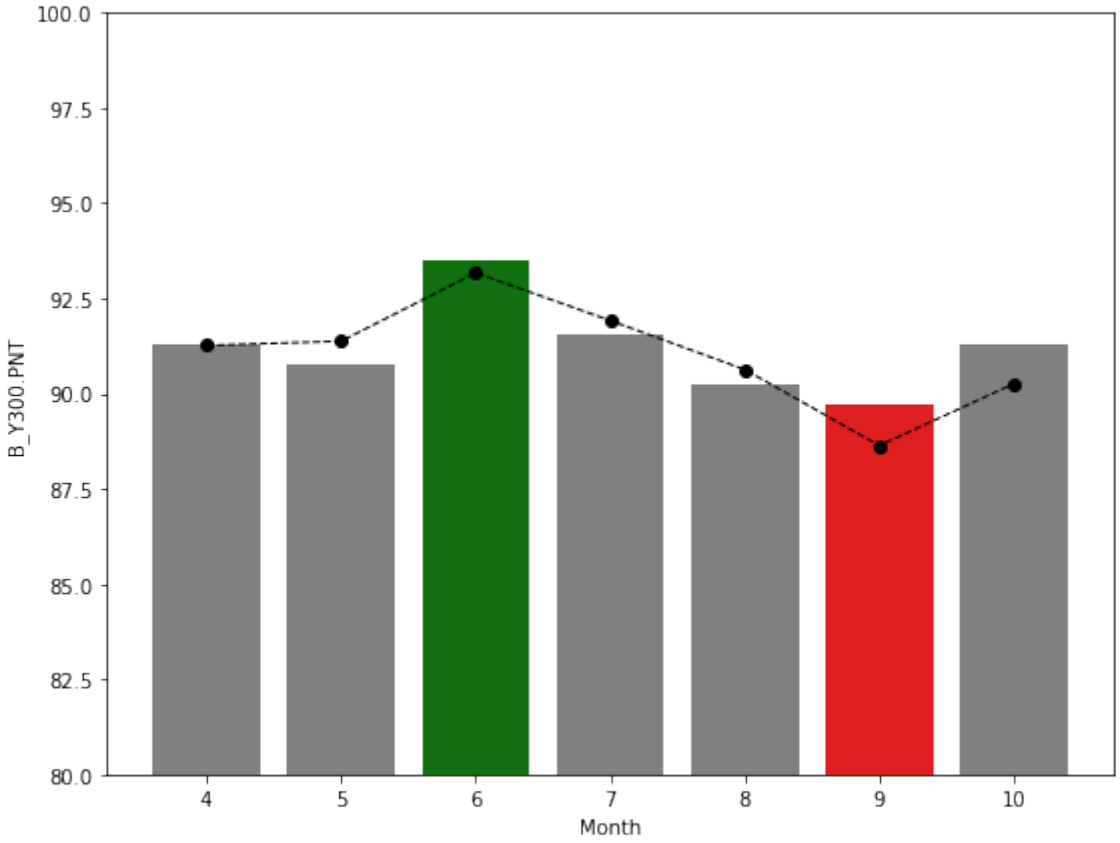
STEP 1: PREPARE – Use the built-in TrendMiner tools to prepare your data of interest.
STEP 2: LOAD – Load in data from saved TrendHub Views inside a Python Notebook.
STEP 3: SCRIPT – Create advanced visualisations or train your models using Python.
STEP 4: OPERATIONALISE – Embed visualisation in *DashHub* or deploy models as *Machine Learning Model tags*.

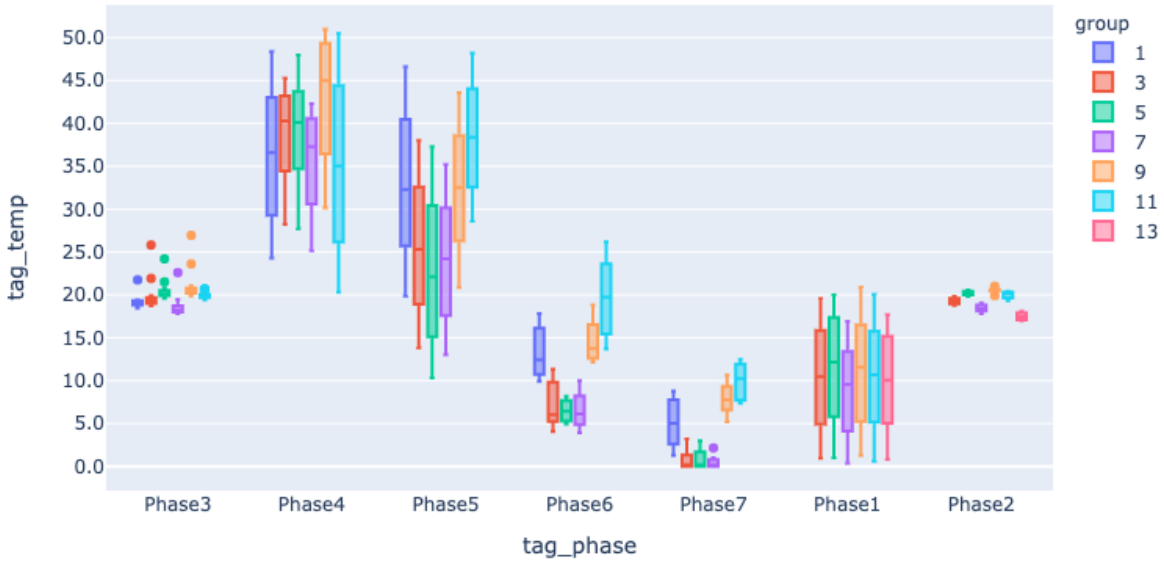


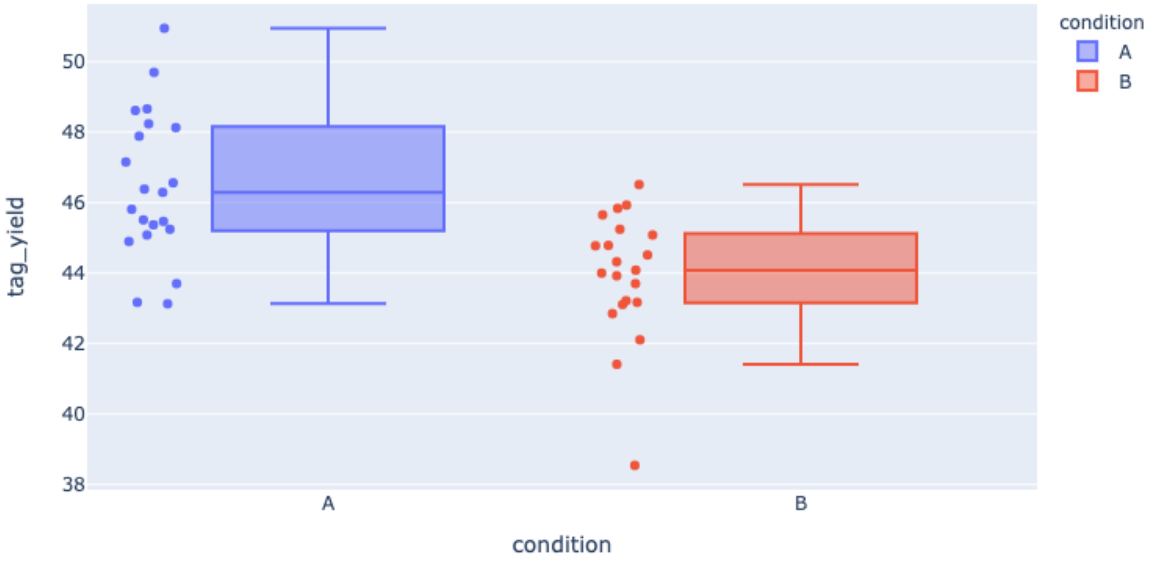
Try it out!

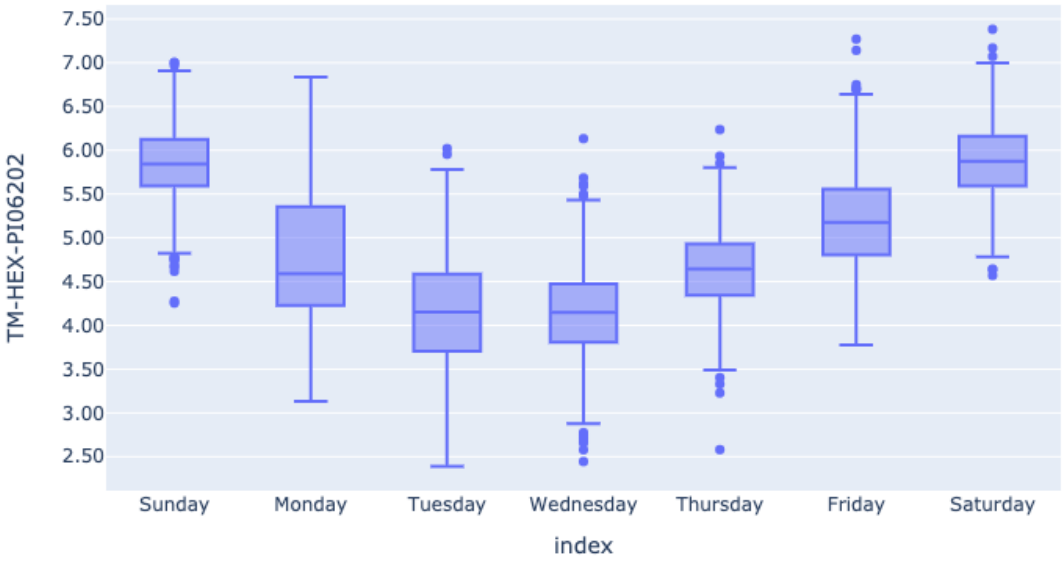
We now offer existing TrendMiner customers to join us in our **Data Scientist In The Loop TRIAL program** which enables you to:

- Evaluate the Embedded Notebooks functionality for a limited amount of time.
- Provide feedback to the TrendMiner team for future improvements.

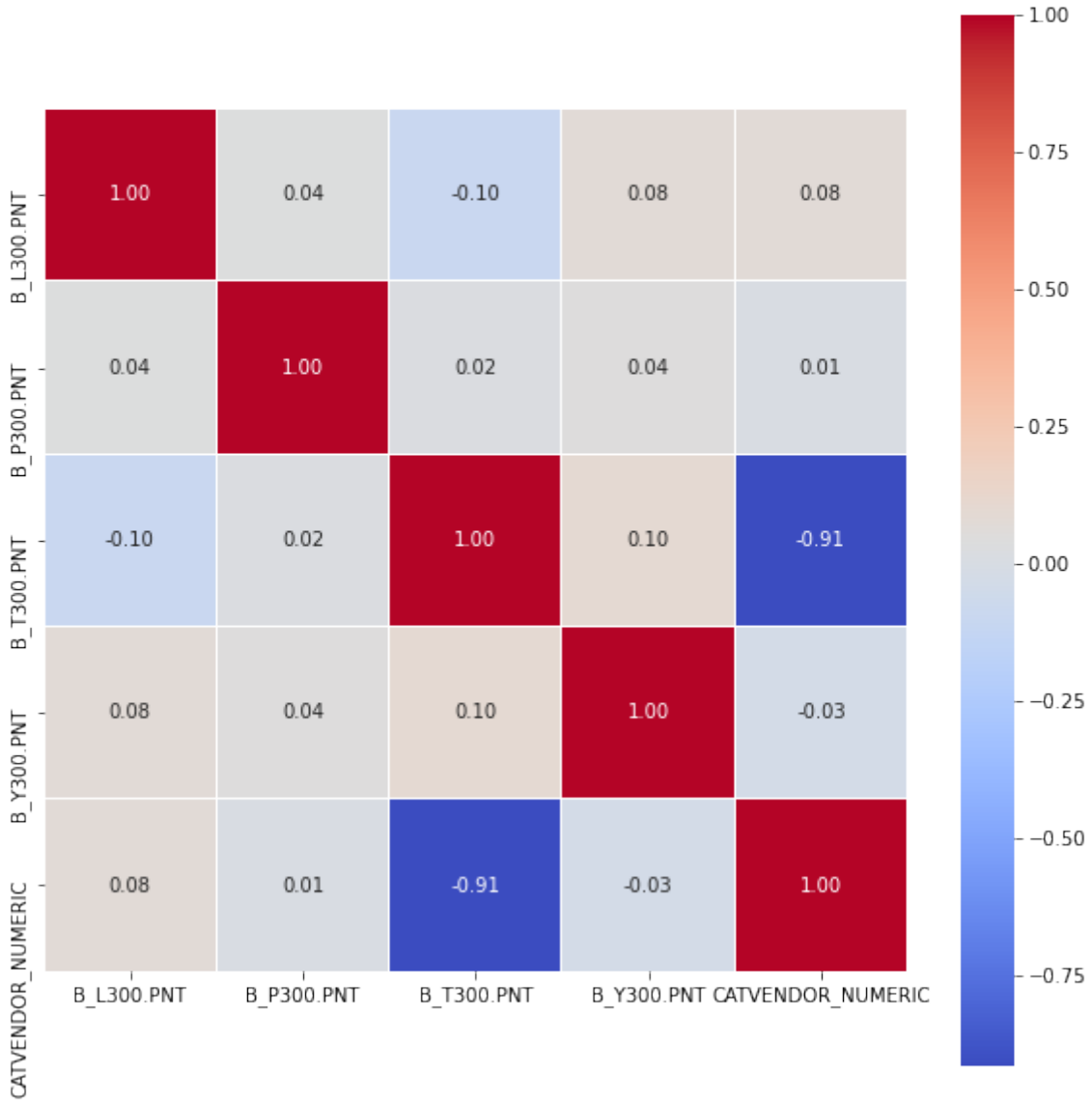


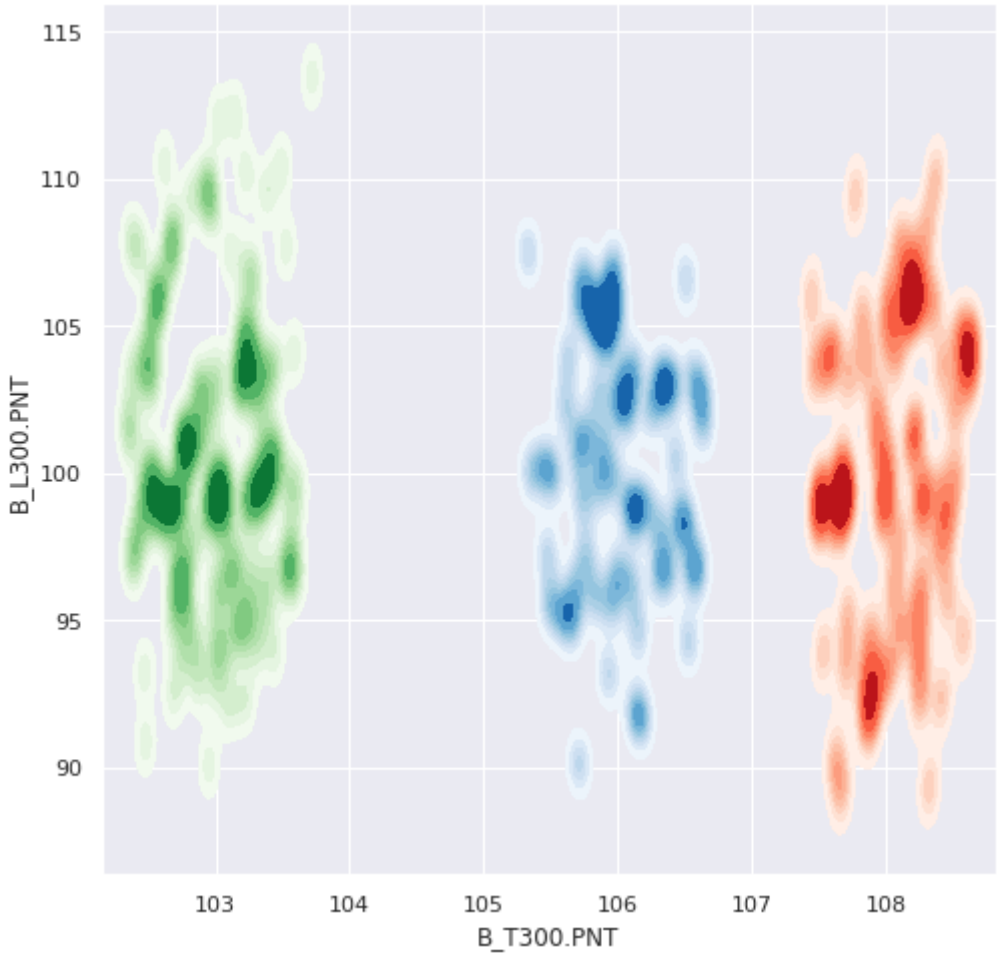


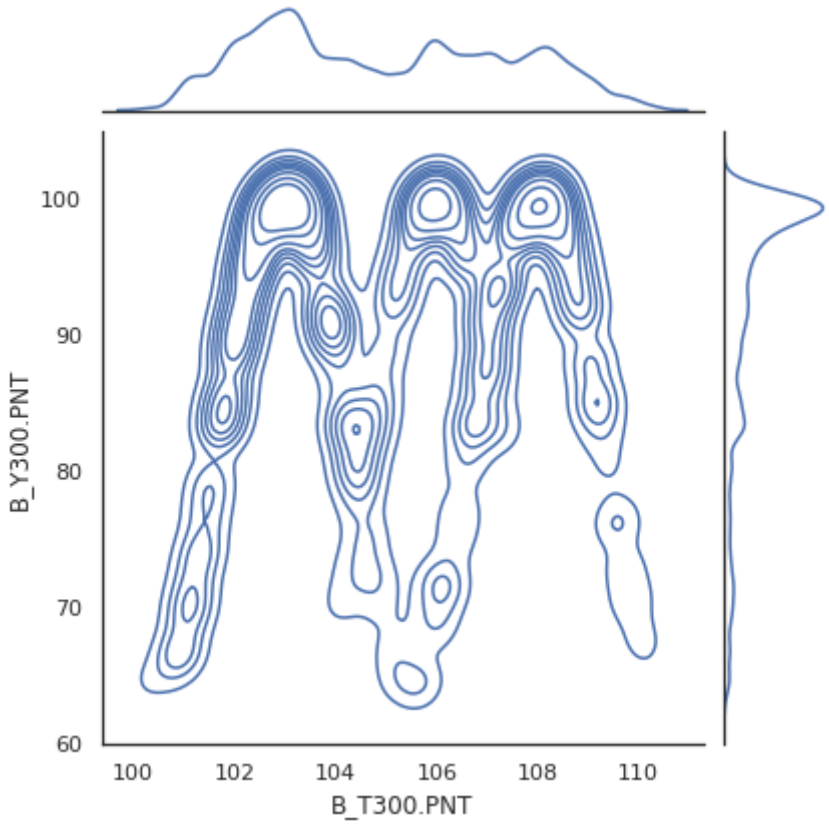

condition
A
B
tag_yield
50
48
46
44
42
40
38
A
B
condition

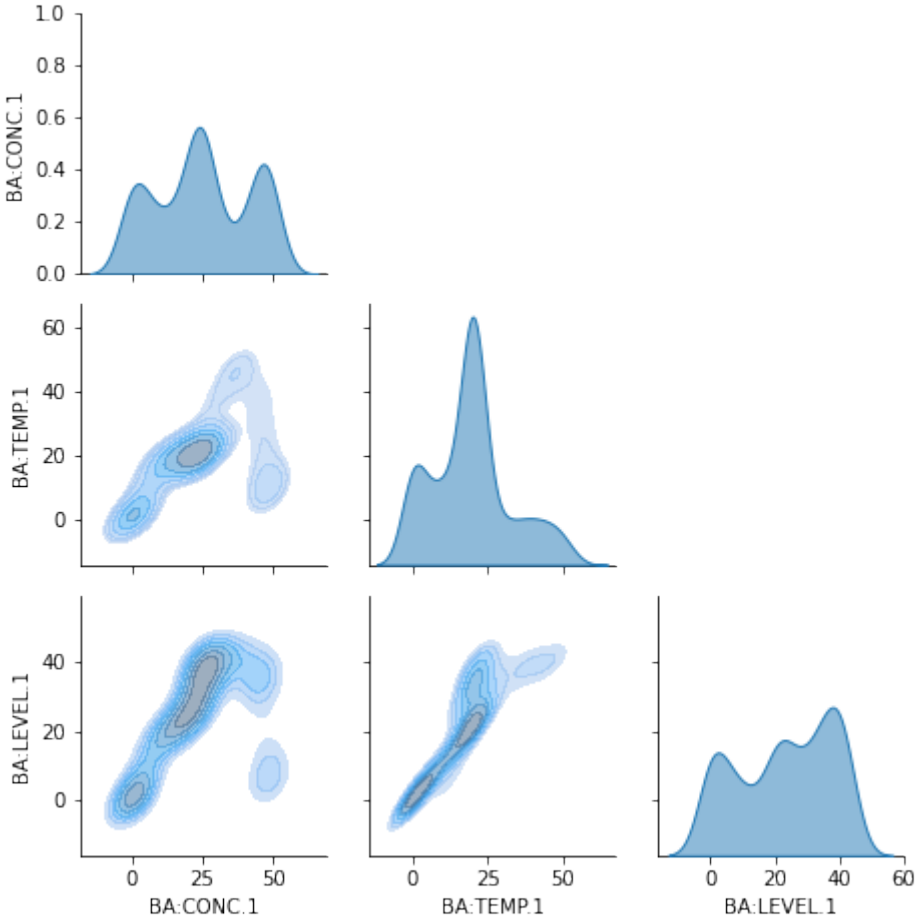

TM-HEX-PI06202
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
index

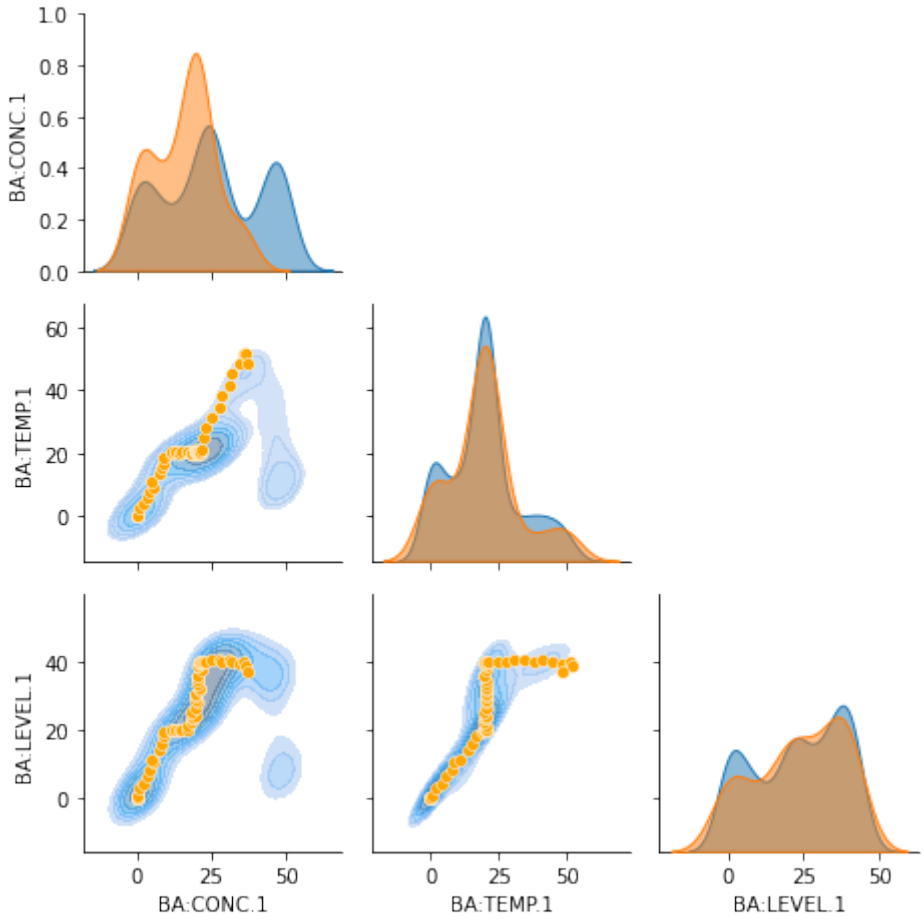
Correlation Heatmap



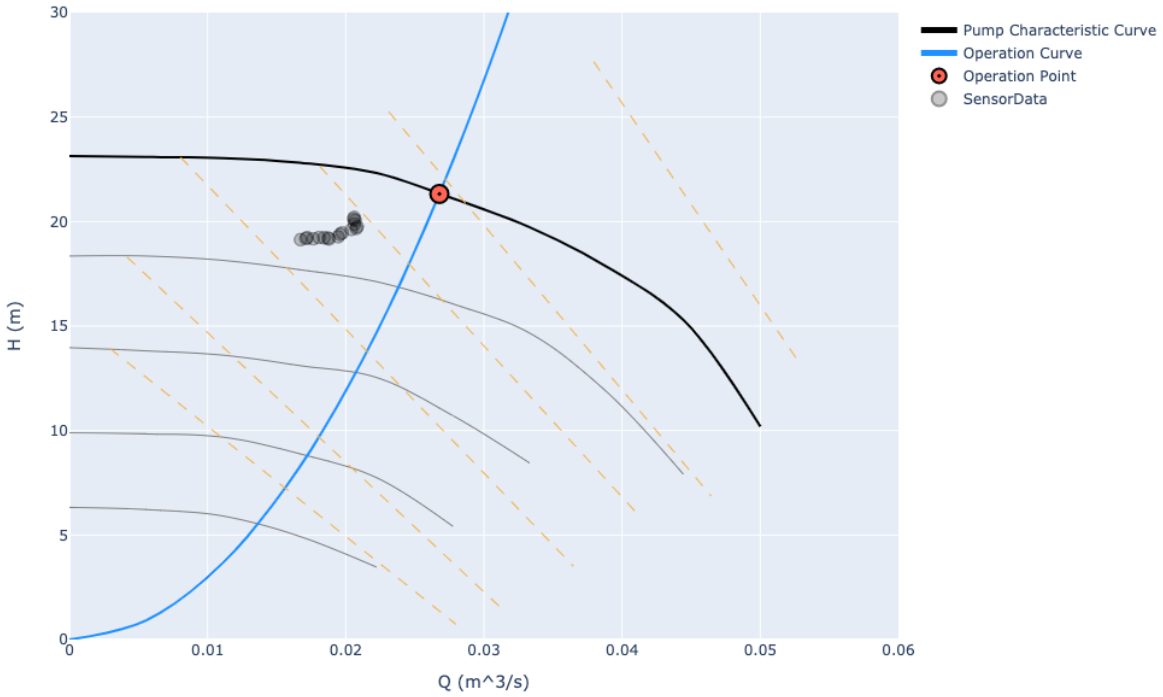

115
110
105
100
95
90
B_L300.PNT
103
104
105
106
107
108
B_T300.PNT


100
90
80
70
60
B_Y300.PNT
100
102
104
106
108
110
B_T300.PNT


BA:CONC.1
BA:TEMP.1
BA:LEVEL.1
1.0
0.8
0.6
0.4
0.2
0.0
60
40
20
0
40
20
0
0
25
50
0
25
50
0
20
40
60
BA:CONC.1
BA:TEMP.1
BA:LEVEL.1



Pump Characteristic Curve




Shewart Control Charts
tm-demo-S1:TI22114
122.908
122.906
122.904
122.902
122.900
122.898
122.896
122.894
122.892
2015-03-25
2015-03-27
2015-03-29
2015-03-31
2015-04-01
2015-04-03
2015-04-05
2015-04-07
+1.04e2
tm-demo-S1:TI121518
0.050
0.045
0.040
0.035
0.030
tm-demo-S1:FI1056
0.280
0.279
0.278
0.277
0.276