PROJECT PLAN DOCUMENT

Project number	37
Project Title	MLOps enabling anomaly detection in real-time sensor data streams
Document	Project Plan
Creation date	10th February 2021
Created By	Tanmay Goyal, Soveet Nayak, Lakshmi Girija, Imami Syed
Client	Navaneethan @ Smartterra

Brief problem statement

Sensors (sensing flow and pressure) monitor the water distribution network and generate high-velocity data that must be examined for abnormalities in real-time. Sensor data streams are aggregated into cohorts and evaluated together for aberrant behavior by DeepAR or TFT. Using machine learning, we are meant to find and categorize abnormalities in high-granularity data streams.

Team Members

- Imami
- Tanmay Goyal
- Soveet Nayak
- Lakshmi Girija

Team Communication

Team meet - Tuesday and Friday
Meet time - 19:00 - 20:00
Meet platform - Microsoft Teams
Communication platform - Slack

Development Environment

- Azure VM
- Python
- Flask
- Pandas
- React JS
- Express JS
- MongoDB
- JavaScript
- ADTK
- Plotly

Milestone Schedule

S.No.	Milestone	Due Date	Release	Deliverable?
1	Create draft requirements	11-02-2022	R1	No
2	Upload CSV	11-02-2022	R1	Yes
3	Visualize multiple time-series on a graph	14-02-2022	R1	Yes
4	Deploying on the remote Azure virtual machine	15-02-2022	R1	No
5	Exploratory Data Analysis	15-02-2022	R1	No
6	Single-user data upload and access	18-02-2022	R1	Yes
7	Analyzing the draft	01-03-2022	R1	No
8	Finalize requirements	01-03-2022	R1	No
9	Draft complete	01-03-2022	R1	No

10	Re-Analysis of timeline	05-03-2022	R1	No
11	Visualize detected anomalies from a single algorithm	11-03-2022	R1	Yes
12	Single user code complete	15-03-2022	R1	Yes
13	Use Algorithms to analyze data	15-03-2022	R2	Yes
14	Visualize anomalies from multiple algorithms	17-03-2022	R2	Yes
15	Multi-user data upload and access (If time permits)	18-03-2022	R2	Yes
16	Single user code testing	18-03-2022	R1	Yes
17	Provide option for setting limits	22-03-2022	R2	Yes
18	Run ThresholdAD on a single time-series	22-03-2022	R2	Yes
19	Run algorithms that operate on multiple time-series	1-04-2022	R2	Yes
20	Multi-user code complete (If time permits)	05-04-2022	R2	Yes

21	Run multiple algorithms and compare results on the same time-series	05-04-2022	R2	Yes
22	Anomaly detection code complete	09-04-2022	R2	Yes
23	Measure severity of anomaly detected	12-04-2022	R2	Yes
24	Multi-user code testing (If time permits)	16-04-2022	R2	Yes
25	Anomaly detection code testing	20-04-2022	R2	Yes