

## Overview

In addition to the previously shared information, the teams should also consider following points:

- 1) Three data sets (Training (7 days) + Test (8<sup>th</sup> day)) are provided to fine-tune the developed model.
  - a. Training data is same as the previously shared data, test data is now provided to enhance the learning of the developed models.
  - b. Furthermore, the participants may note that both datasets (training & test) are at non-uniform sampling rate.
  - c. Final evaluation will also be done based on the similar philosophy, i.e., participants are required to predict the 8<sup>th</sup> day data at arbitrary time stamp (may or may not be uniform).
  - d. At final evaluation round, participants will be provided to separate data sets (MEO and GEO orbits) for training (7 days data).
  - e. Participants has to predict 8<sup>th</sup> day data at arbitrary time stamp; time stamps will be provided to each team.
- 2) For evaluation following criteria will be used for the residual error between the predicted and test samples for all the parameters like x error, y error, z error and clock error (equal weightage to be given for each of the parameters):
  - a. **Priority 1:** Shapiro-Wilk W statistic score, pValue (the probability of observing the given result by chance given that the null hypothesis is true), and Hypothesis test result (0 = fail to reject H<sub>0</sub>, 1 = reject H<sub>0</sub>; H<sub>0</sub>: Data comes from a normal distribution) at Significance level ( $\alpha$ ) to be 0.05.
    - i. Higher the SW statistic score better will be the performance.
    - ii. Participants has to report the given scores that are averaged over each of the parameters (as each parameters are given equal weight).
    - iii. Participants has to develop their own code to evaluate the SW score along with the confidence interval on their preferred development platform.
    - iv. To benchmark the SW score reference benchmark dataset is attached and its parameters are as follows:
      1. Shapiro-Wilk W statistic score: 0.9810
      2. P-value: 0.5840
      3. Hypothesis test result: 0 (fail to reject H<sub>0</sub>).
  - b. **Priority 2:** Participants are also required to report mean and standard deviation for the above mentioned residual error; this criteria will be used if two teams have equal score in priority 1.
  - c. **Priority 3:** Participants has display the Q-Q (Quartile-quartile) plot of the above-mentioned residual error. It will used to visualize the number of outliers; in case two have equal performance in priority 1 and priority 2.

**All the best**