

Univariate Exploratory Data Analysis of Satellite Telemetry

ANTONINO GALLETTA¹, MV RAMACHANDRA PRAVEEN², SUSHABHAN CHOUDHURY², PIYUSH KUCHHAL², RAJESH SINGH³, and PURNENDU SHEKHAR PANDEY⁴

¹Universita degli Studi di Messina

²University of Petroleum and Energy Studies

³Uttaranchal Institute of Technology

⁴GL Bajaj Institute of Management and Research

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Abstract

Summary — Large Low Earth Orbit satellite constellations require Machine Learning methods for enabling autonomy in health keeping of the satellites. Autonomy in health keeping entail's fault detection, isolation and reconfiguration. However, prior to building model building, it becomes imperative to conduct Exploratory Data Analysis of the data to gain an intuition of data and to decide the best model. Univariate Exploratory data analysis has been carried out on a BUS CURRENT sensor of Electrical Power System of a Low Earth Orbit Satellite to gain an understanding of data. Various aspects of data like presence of outliers, sampling frequency, missing values, comparison of imputation methods to fill missing values seasonality and trend analysis, stationarity test on data, rolling mean, and auto correlation and partial auto correlation plots have been made and a detailed statistical analysis of results has been conducted.

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