Dataset: NASA Turbofan Jet Engine Data Set

About the Dataset

The dataset Nasa Turbofan jet engine data set is of multiple multivariate time series.The C-MAPSS(Commercial Modular Aero-Propulsion system simulation) dataset is divided into four subsets,and each subset is further divided into training and test sets of multiple multivariate time series. Each time series is from a different aircraft gas turbine engine and starts with different degrees of initial wear and manufacturing variation.

All engines operate in normal condition at the start, then begin to degrade at some point during the time series. The degradation in the training sets grows in magnitude until failure, while the degradation in the test sets ends sometime prior to failure, that is the RUL. That is, the last time step for each engine in the test sets provides the true RUL targets. Thus, the main objective is to predict the correct RUL value for each engine in the test sets. The four subsets vary in operating and fault conditions and the data is contaminated with sensor noise. Each subset includes 26 columns: engine(unit) number, time step(in cycles), three operational sensor settings(op1,op2,op3), and 21 sensor measurement(Fan inlet temperature, HPC outlet temperature,…etc)

The Ultimate goal of the dataset is to predict the remaining useful life (RUL) of each engine in the test dataset accurately. It can be predicted using various machine learning and deep learning algorithms.