Input: CSV file of accelerometer and gyroscope readings

Output: list of metrics with their description and values

Processing of Accelerometer and Gyroscope Data

1. Normalising time-series data
   1. subtract moving averages from each axis to normalise the pulses around 0
   2. a rolling window of 3 data points are used
2. Truncate data to obtain only relevant parts
3. The significant axis is chosen for analysis at this point, this step is optional for the user. However, if a significant axis chosen, the returned metrics will be only for the chosen axis (except for covariance, zero-crossing-rate and mean-crossing-rate)
4. Find main peaks of signal
   1. find\_peaks function from the scipy signal library is used to facilitate the discovery of peaks within the time-series data
   2. the distance parameter is set to 10 to filter out most of the peaks that might not correlate to the intended movements (i.e. jitters)
5. Repeat step 3 for troughs
6. Find jitter peaks of signal
   1. find\_peaks function from the scipy signal library is used to facilitate the discovery of peaks
   2. the distance parameter is set to 0 in this case in order to consider all the peaks (including the jitters)
   3. only consider jitters (peaks which have peak heights below the 50% percentile)
7. Repeat step 5 for troughs
8. Stores metrics and values
9. Filter out metrics that are not requested by the user and return to the user a list of:
   1. metric\_name
   2. metric\_description
   3. author
   4. value
   5. units