LAB1_ANALYSIS REPORT

I came to the conclusion that the errors in meters in the static location data are caused by dilution of precision after observing the graphs displayed from the data obtained.The UTM northing standard varies from 0 to 6 meters, and the UTM easting standard varies from 0 to 3 meters. As each satellite has its own error correction settings, the data from all the available satellites when combined will cause a rise in error. This is based on by data published by satellites. GPS systems typically employ the kalman filter to reduce this error, which estimates the location of the current location based on the past location and an anticipated future position. However, in the case of static positions, the system is unable to determine the future position due to the absence of variables like velocity and direction, making it difficult to correct error in static positions.

However, in the case of walking, this filtering strategy will succeed since it will have access to enough data to calculate velocity and other variables to estimate the projected location.

Static Data

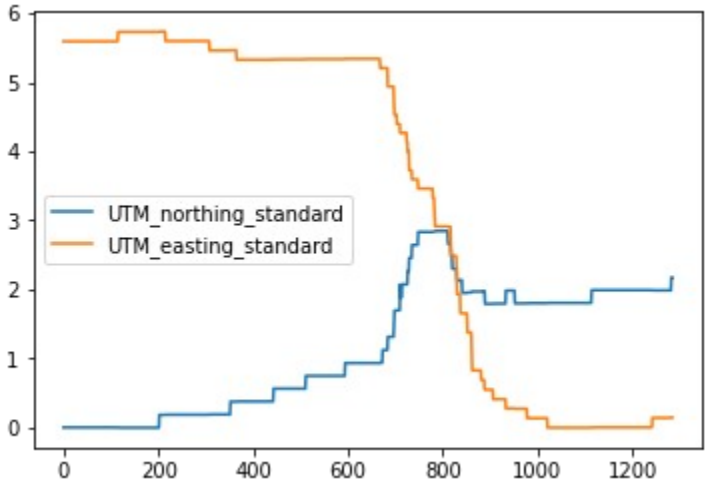

Fig1 : static data

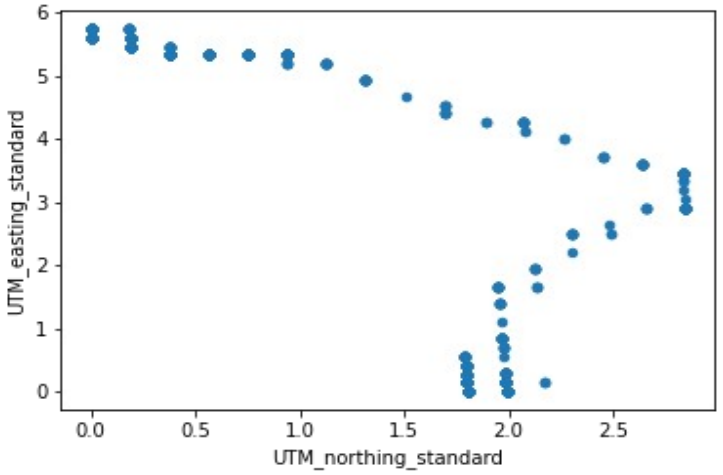

Fig2 : static data

Walking data

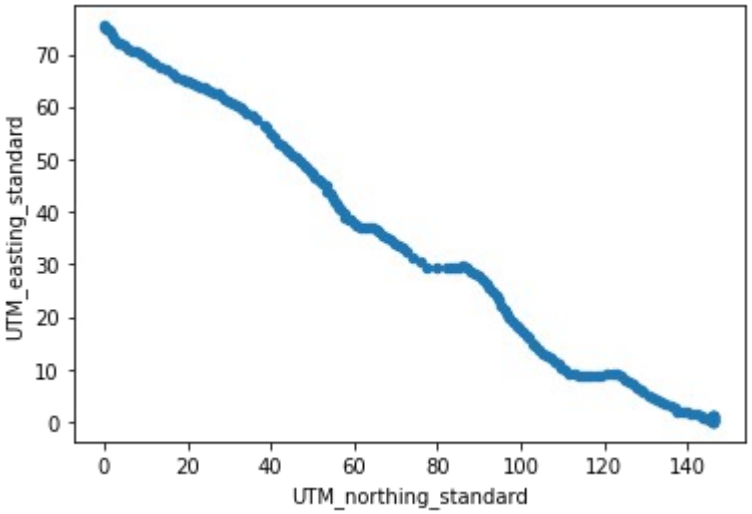

Fig3: Utm graph

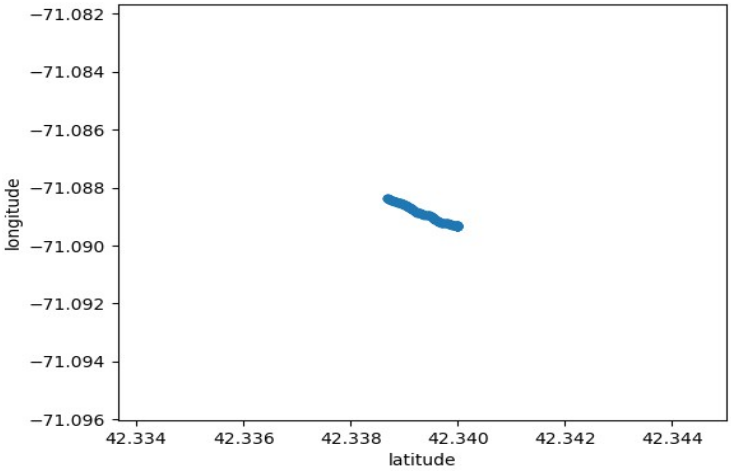

Fig4: Latlong graph