Case Study

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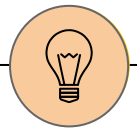
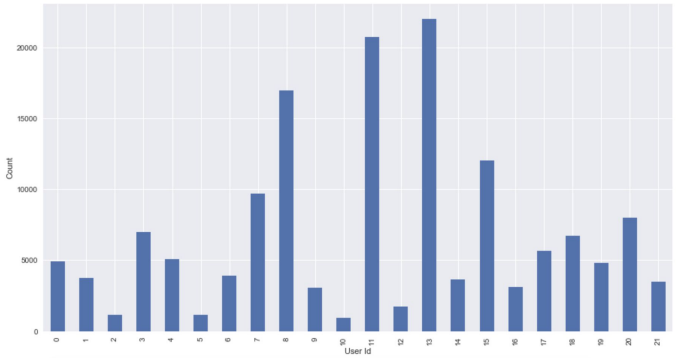


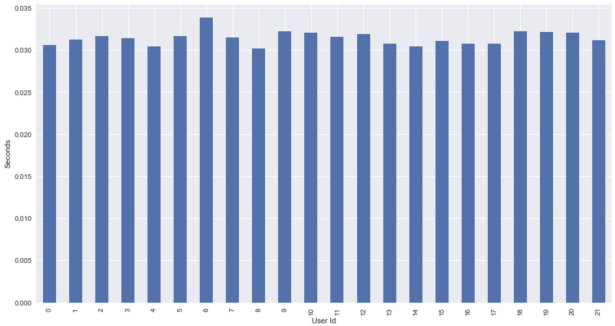
The Data.

- Elapsed time.
- X acceleration
- Y acceleration
- Z acceleration

Number of Observations



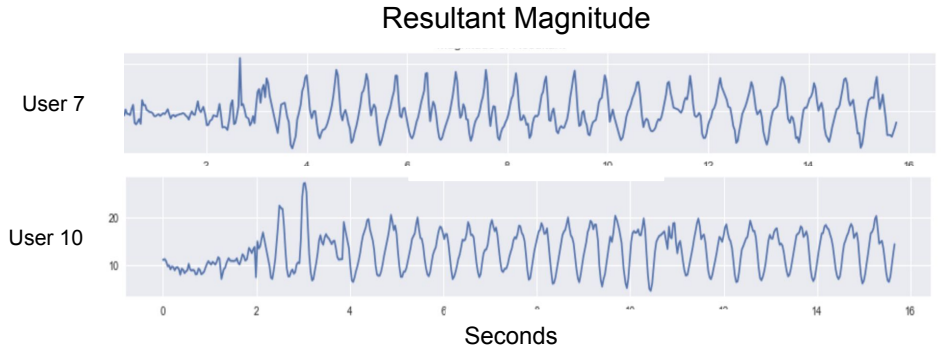
Average Time Between Observations

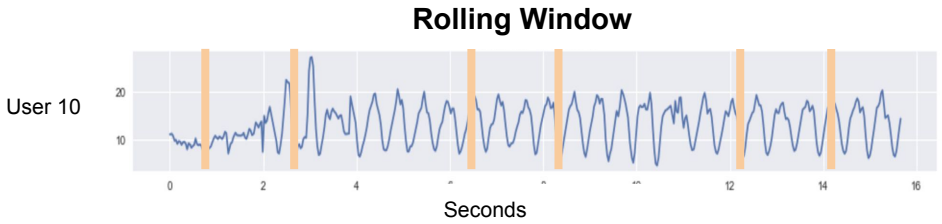


Features

Raw Accelerometer Data

X	Y	Z	Resultant





Model

- Mean
- Standard Deviation
- Minimum
- Maximum

x 4

16 Features
100 observations per window
50% window overlap

Shuffle Data

Train:Test 70:30

Random Forest

Train	Test
0.99	0.84

KNN

0.87	0.80

Linear SVM

0.80	0.75

Discussion

Model Improvement

- Rolling window optimization
- More features
- Hyperparameter optimization

Generalization

- Are they walking the same path?
- Demographics of user?

Biometric Identification