**RESULTS AND DISCUSSION**

**RESULT**

By applying the concept of Principal Component Analysis (to reduce the number of independent variables) we have lowered the chance of error.

**ACCURACY SCORE**

K-Nearest Neighbor **–** 97.47%

Decision Tree Classifier **–** 85.43%

Random Forest Classifier **–** 90.58%

**DISCUSSION**

This data is collected in an experiment that is performed on people of age between 19 and 48. They were asked to wear smartphone on their waist and asked to perform six activities - WALKING, WALKING\_UPSTAIRS, WALKING\_DOWNSTAIRS, LAYING, STANDING and SITTING. Smart phone sensors on their waist collected tri-axial acceleration data of accelerometer and gyroscope and the estimated body acceleration and also angular velocity using gyroscope. In total, for each person, it collected 562 features including standard deviation, minimum, maximum of the data.

**CONCLUSION**

The main purpose of this report is to highlight and predict the activity and posture of a person. This project involves three supervised learning algorithms i.e. K-Nearest Neighbors, Decision Tree Classifier and Random Forest Classifier. All three of them have different accuracy score. I got more accuracy score in K-Nearest Neighbors. And other deciding factor is time and I found that K-Nearest Neighbors was taking the lowest time amongst the all three to execute.

I concluded that my prediction was more accurate during K-Nearest Neighbors.

**REFRENCES**

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