## Data Source

The dataset used in this project comes from the “Human Activity Recognition Using Smartphones Dataset” provided by UCI.

It includes measurements collected from the accelerometers and gyroscopes of Samsung Galaxy S smartphones.

Link: [UCI HAR Dataset](<http://archive.ics.uci.edu/ml/datasets/Human+Activity+Recognition+Using+Smartphones>)

## Data Description

The data includes:

- \*\*Subjects\*\*: 30 volunteers who performed activities.

- \*\*Activities\*\*: 6 activities performed (WALKING, WALKING\_UPSTAIRS, WALKING\_DOWNSTAIRS, SITTING, STANDING, LAYING).

- \*\*Features\*\*: 561 variables measured, including signals from accelerometers and gyroscopes.

## Transformations

1. \*\*Merged training and test datasets\*\* into one.

2. \*\*Extracted only mean and standard deviation measurements\*\*.

3. \*\*Replaced activity codes\*\* with descriptive activity names.

4. \*\*Renamed variables\*\* for clarity:

- `t` → `Time`

- `f` → `Frequency`

- `Acc` → `Accelerometer`

- `Gyro` → `Gyroscope`

- `Mag` → `Magnitude`

- `BodyBody` → `Body`

5. \*\*Created tidy dataset\*\* with the average of each variable for each subject and activity.

## Final Dataset

The final dataset (`tidy\_dataset.txt`) contains:

- `subject`: ID of the subject (1–30).

- `activity`: Descriptive activity name.

- Average values for each selected measurement variable.