**REQUIREMENTS FOR DATASET**

**Description**: The dataset must contain information about all training activities registered by either a Garmin Fénix S6, or a Garmin Forerunner or other smartwatch. If the data is registered with any other smart watch or smart-application, then you must make the necessary modifications to the dataset so that it has exactly the same format as one of those mentioned above. The dataset must be uploaded without headers.

**Data format:** The data must be stored in a CSV file.

**Data size:** The size of the dataset must be as big as possible.

**Required data fields:**

The database must have the same fields specified in the following table and in the same order. However, it is not necessary that the header name of the fields is exactly the same. Note that the required fields are different depending on the brand of smart watch you are using (i.e. Garmin Fénix S6, Garmin Forerunner or other).

GARMIN FÉNIX S6

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| **ActivityType** | The type of activity must be one of the followings: Mountain biking, Road biking, Spinning, Weight training, Running, Athletic Walking, Alpinism, Swimming, Hike or Walk.  Must be written either in Englis or in Spanish. |
| **Date** | The date on which the activity took place.  yyyy-mm-dd hh:mm:ss |
| **Favourite** | Boolean with Yes or No. |
| **Title** | The title of the activity. |
| **Distance** | The distance covered during the activity. Units must be Km |
| **Calories** | The number of calories burned during the activity. |
| **Time** | The total duration of the activity.  hh:mm:ss |
| **AverageHeartRate** | The average heart rate during the activity. |
| **MaximumHeartRate** | The maximum heart rate during the activity. |
| **Aerobic TE** | Measures the impact of your workout on cardiovascular fitness. |
| **Average Running Cadence** | The average cadence during running activities |
| **Maximum Running Cadence** | The maximum cadence during running activities |
| **AverageSpeed** | The average speed during the activity. Units must be either km/h or min/km |
| **MaximumSpeed** | The maximum speed during the activity. Units must be either km/h or min/km |
| **TotalAscent** | The total ascent during the activity. Units must be meters. |
| **TotalDescent** | The total descent during the activity. Units must be meters. |
| **Average Stride Length** | The average stride length during running activities |
| **Average Vertical Ratio** | The average vertical ratio during running activities |
| **Average Vertical Oscillation** | The average vertical oscillation during running activities |
| **Avg Ground Contact Time** | The average ground contact time during running activities |
| **Avg Pedaling Cadence** | The average pedaling cadence during cycling activities |
| **Max. Pedaling Cadence** | The maximum pedaling cadence during cycling activities |
| **Normalized Power NP** | The normalized power output during cycling activities |
| **Left Right Balance** | The left-right balance during cycling activities |
| **Training Stress Score** | The training stress score for the activity |
| **Max. Avg. Power 20’** | The maximum average power output for 20 minutes during cycling activities |
| **AveragePower** | The average power output during the activity. |
| **Max. Power** | The maximum power output during the activity |
| **Difficulty** | The difficulty level of the activity. |
| **Fluency** | The fluency of swimming strokes during swimming activities |
| **Total Strokes** | The total number of strokes during swimming activities |
| **Avg. Swolf** | The average swolf score during swimming activities |
| **Avg. Stroke Speed** | The average stroke speed during swimming activities |
| **Total Repetition** | The total number of repetitions during strength training activities |
| **Total Series** | The total number of series during strength training activities |
| **Dive Time** | The time spent diving during diving activities |
| **MinimumTemperature** | The minimum temperature during the activity. Units must be celsius. |
| **Surface Interval** | The time spent on the surface between dives |
| **Decompression** | Helps relax and reduce stress through guided exercises |
| **Best Lap Time** | Records and displays your fastest lap during an activity. |
| **Number of Turns** | Tracks the total count of rotations during specific activities. |
| **MaximumTemperature** | The maximum temperature during the activity. Units must be celsius. |
| **Avg. Rate of respiration** | The average rate of respiration during the activity |
| **Min. Rate of respiration** | The minimum rate of respiration during the activity |
| **Max. Breathing rate** | The maximum breathing rate during the activity |
| **Change in stress** | The change in stress |
| **Beginning of stress period** | Detects the start of a higher stress period. |
| **End of stress period** | Identifies the end of an elevated stress period. |
| **Avg. Stress** | Calculates the average stress level over a period of time. |
| **MovingTime** | The duration of the activity while in motion.  hh:mm:ss |
| **ElapsedTime** | The total duration of the activity, including breaks.  hh:mm:ss |
| **MinimumAltitude** | The minimum altitude during the activity. Units must be meters. |
| **MaximumAltitude** | The maximum altitude during the activity. Units must be meters. |

GARMIN FORERUNNER

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| **ActivityType** | The type of activity must be one of the followings: Mountain biking, Road biking, Spinning, Weight training, Running, Athletic Walking, Alpinism, Swimming, Hike or Walk.  Must be written either in Englis or in Spanish. |
| **Date** | The date on which the activity took place.  yyyy-mm-dd hh:mm:ss |
| **Favourite** | Boolean with Yes or No. |
| **Title** | The title of the activity. |
| **Distance** | The distance covered during the activity. Units must be Km |
| **Calories** | The number of calories burned during the activity. |
| **Time** | The total duration of the activity.  hh:mm:ss |
| **AverageHeartRate** | The average heart rate during the activity. |
| **MaximumHeartRate** | The maximum heart rate during the activity. |
| **Aerobic TE** | Measures the impact of your workout on cardiovascular fitness. |
| **Average Running Cadence** | The average cadence during running activities |
| **Maximum Running Cadence** | The maximum cadence during running activities |
| **AverageSpeed** | The average speed during the activity. Units must be either km/h or min/km |
| **MaximumSpeed** | The maximum speed during the activity. Units must be either km/h or min/km |
| **TotalAscent** | The total ascent during the activity. Units must be meters. |
| **TotalDescent** | The total descent during the activity. Units must be meters. |
| **Average Stride Length** | The average stride length during running activities |
| **Average Vertical Ratio** | The average vertical ratio during running activities |
| **Average Vertical Oscillation** | The average vertical oscillation during running activities |
| **Avg Ground Contact Time** | The average ground contact time during running activities |
| **Training Stress Score** | The training stress score for the activity |
| **AveragePower** | The average power output during the activity. |
| **Max. Power** | The maximum power output during the activity |
| **Difficulty** | The difficulty level of the activity. |
| **Fluency** | The fluency of swimming strokes during swimming activities |
| **Avg. Swolf** | The average swolf score during swimming activities |
| **Avg. Stroke Speed** | The average stroke speed during swimming activities |
| **Total Repetition** | The total number of repetitions during strength training activities |
| **Dive Time** | The time spent diving during diving activities |
| **MinimumTemperature** | The minimum temperature during the activity. Units must be celsius. |
| **Surface Interval** | The time spent on the surface between dives |
| **Decompression** | Helps relax and reduce stress through guided exercises |
| **Best Lap Time** | Records and displays your fastest lap during an activity. |
| **Number of Turns** | Tracks the total count of rotations during specific activities. |
| **MaximumTemperature** | The maximum temperature during the activity. Units must be celsius. |
| **MovingTime** | The duration of the activity while in motion.  hh:mm:ss |
| **ElapsedTime** | The total duration of the activity, including breaks.  hh:mm:ss |
| **MinimumAltitude** | The minimum altitude during the activity. Units must be meters. |
| **MaximumAltitude** | The maximum altitude during the activity. Units must be meters. |

OTHER

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| **ActivityType** | The type of activity must be one of the followings: Mountain biking, Road biking, Spinning, Weight training, Running, Athletic Walking, Alpinism, Swimming, Hike or Walk.  Must be written either in Englis or in Spanish. |
| **Date** | The date on which the activity took place.  yyyy-mm-dd hh:mm:ss |
| **Favourite** | Boolean with Yes or No. |
| **Title** | The title of the activity. |
| **Distance** | The distance covered during the activity. Units must be Km |
| **Calories** | The number of calories burned during the activity. |
| **Time** | The total duration of the activity.  hh:mm:ss |
| **AverageHeartRate** | The average heart rate during the activity. |
| **MaximumHeartRate** | The maximum heart rate during the activity. |
| **Aerobic TE** | Measures the impact of your workout on cardiovascular fitness. |
| **Average Running Cadence** | The average cadence during running activities |
| **Maximum Running Cadence** | The maximum cadence during running activities |
| **AverageSpeed** | The average speed during the activity. Units must be either km/h or min/km |
| **MaximumSpeed** | The maximum speed during the activity. Units must be either km/h or min/km |
| **TotalAscent** | The total ascent during the activity. Units must be meters. |
| **TotalDescent** | The total descent during the activity. Units must be meters. |
| **Average Stride Length** | The average stride length during running activities |
| **Average Vertical Ratio** | The average vertical ratio during running activities |
| **Average Vertical Oscillation** | The average vertical oscillation during running activities |
| **Avg Ground Contact Time** | The average ground contact time during running activities |
| **Avg. GCT Balance** | Measures the balance between the time your left and right feet spend in contact with the ground during a running stride, providing insights into your running technique and symmetry. |
| **Training Stress Score** | The training stress score for the activity |
| **AveragePower** | The average power output during the activity. |
| **Max. Power** | The maximum power output during the activity |
| **Difficulty** | The difficulty level of the activity. |
| **Fluency** | The fluency of swimming strokes during swimming activities |
| **Avg. Swolf** | The average swolf score during swimming activities |
| **Avg. Stroke Speed** | The average stroke speed during swimming activities |
| **Total Repetition** | The total number of repetitions during strength training activities |
| **Dive Time** | The time spent diving during diving activities |
| **MinimumTemperature** | The minimum temperature during the activity. Units must be celsius. |
| **Surface Interval** | The time spent on the surface between dives |
| **Decompression** | Helps relax and reduce stress through guided exercises |
| **Best Lap Time** | Records and displays your fastest lap during an activity. |
| **Number of Turns** | Tracks the total count of rotations during specific activities. |
| **MaximumTemperature** | The maximum temperature during the activity. Units must be celsius. |
| **Avg. Rate of respiration** | The average rate of respiration during the activity |
| **Min. Rate of respiration** | The minimum rate of respiration during the activity |
| **Max. Breathing rate** | The maximum breathing rate during the activity |
| **MovingTime** | The duration of the activity while in motion.  hh:mm:ss |
| **ElapsedTime** | The total duration of the activity, including breaks.  hh:mm:ss |
| **MinimumAltitude** | The minimum altitude during the activity. Units must be meters. |
| **MaximumAltitude** | The maximum altitude during the activity. Units must be meters. |

**Data cleaning:** The data is preprocessed in order to remove any incomplete or erroneous records, correct some typos and incoherencies, and remove useless or incomplete columns.

The typos that will be fixed are the following:

* Strings or values exported within quotes. The quotes will be removed.
* Numerical values exported as string will be turned into floats.
* Dates exported as string will be turned into datetime values.
* Activity types written in Spanish will be translated to English.
* Useless and uninformative columns will be removed.

**Contact information**: For any inquiries or questions about the dataset, please contact the creator at carlamiquelblasco2001@gmail.com