UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

UNIVERSITY OF TWENTE.

PROJECT README

IMPROVING FITNESS WITH DATA

The SportsAnData Application is a software system that enables users to upload their training activity data and use it to predict and analyze their fitness status. Athletes who register their training activities can leverage the application to assess the impact of their weekly workouts on their performance for the following week, as well as gain access to other relevant insights.

1 Objective

The main objective of this project is to develop an intuitive and user-friendly application that empowers individuals to track and understand the effects of their training activities on their overall fitness. By utilizing the application, users can make data-driven decisions and optimize their workout routines.

2 Sections and funcionalities

The SportsAnData Application consists of three primary sections, it has been programmed using Python as the primary language and deployed with Streamlit web framework.

Each section has a main file, which contains the main logic and structure for that page, and there is one additional file for each main that contains other useful functions. Additionally, there is a configuration file that specifies the required packages and a .css file that provides some predefined styles for the application. Thus, the application includes 8 files.

Each section serve the following purpose:

1. SetUp:The Setup section provides users with the ability to upload their registered activity data. While this section appears straightforward to the user, it involves complex background processes. The code behind the scenes performs data cleaning operations and identifies the most suitable model for each user. This stage is crucial for ensuring accurate predictions and personalized insights.

2. Prediction: The Prediction section allows users to upload new workout data and obtain predictions for their future performance. By inputting the data for their upcoming workouts, users can anticipate the expected impact on their fitness levels in the following week. This feature facilitates proactive planning and assists athletes in optimizing their training strategies.

3. Visualizations: The Visualizations section offers users various interactive graphs and visual representations of their training data. These visualizations enable users to gain valuable insights and comprehend their progress more effectively. With this feature, users can

explore trends, identify patterns, and make informed decisions regarding their training routines.

3 Usage

To utilize the SportAnData Application effectively, follow the steps specified in the User Manual, which can be found in the documentation folder.

4 Contributors

You can contact the owner of the project Carla Miquel Blasco at carlamiquelblasco2001@gmail.com

5 license

This project is as a result of a final degree thesis of baccelour's degree in Data Science and Engineering. It is a collaboration between The Polytechnique University of Catalonia and the University of Twente.