

# Tutorial

# Unilever's Project

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9th August, 2022





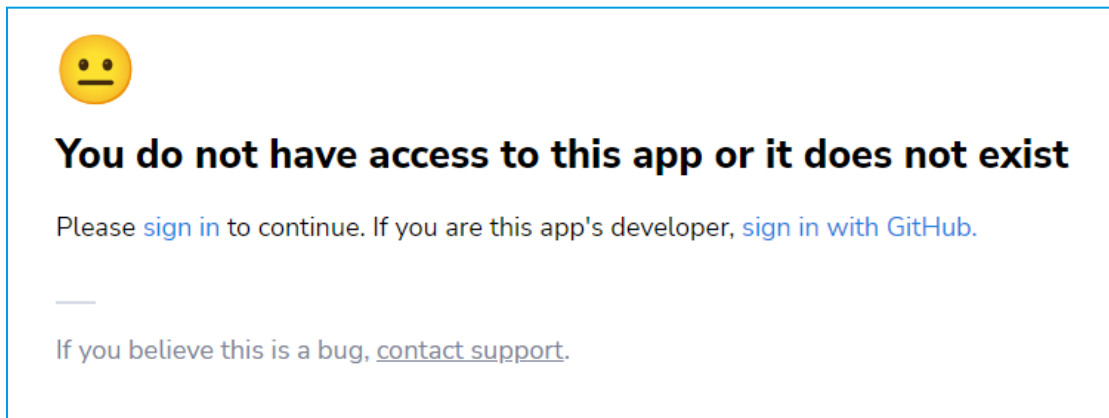
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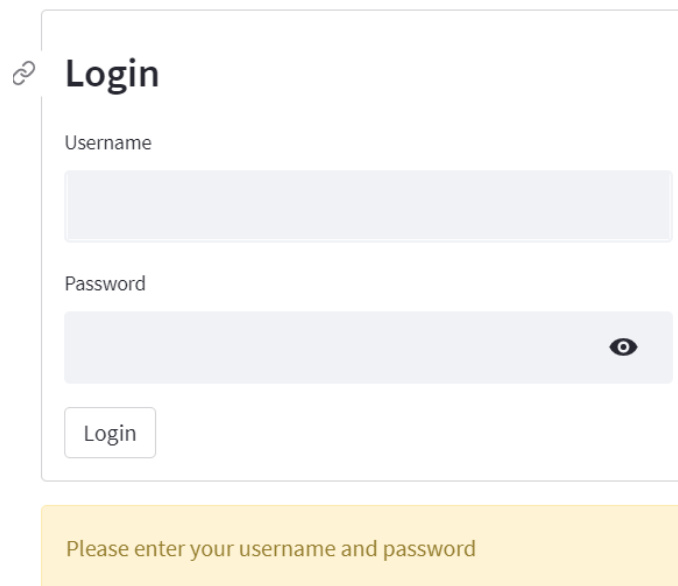
## Login

The model's interface was made with Streamlit. Click [here](#) to access the website.

When you first open the link, you will receive the following message:



Sign in with your Google account to open the login page:

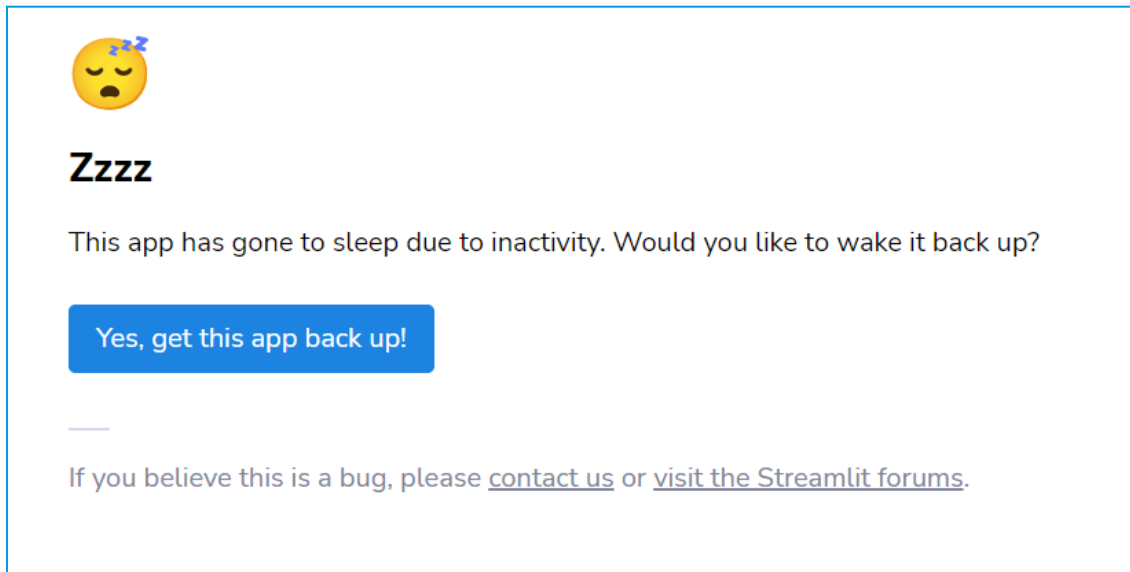
A screenshot of a login form. It has a title "Login" with a link icon to its left. Below the title are two input fields: "Username" and "Password". The "Password" field has a toggle icon (an eye) on its right side. Below the input fields is a "Login" button. At the bottom of the form, there is a yellow rectangular box containing the text: "Please enter your username and password".

Enter this credentials to access the interface:

Username: Unilever

Password: y8DvM2CPP7sq29K

**Warning:** If you don't open the website for a while, you might receive this message:



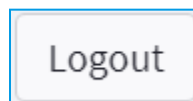
If this happens, just click the “Yes, get this app back up!”.

It will take some time to reload the page, but the website will be available after that.

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That's it! Now, when you access the website again, you will just have to enter your Login and Password.

If you want to logout, just click this button at the top left of the page:



## Perform a prediction

The screenshot shows a web form for performing a prediction. At the top, there are two buttons: 'Add data by hand' (which is selected and highlighted in blue) and 'Upload spreadsheet'. Below these buttons, the form is organized into two columns. The left column contains fields for 'Active:' (a dropdown menu with 'None' selected), 'Sodium carbonate:', 'Fragrance:', 'Active percentage:', 'Test:' (a dropdown menu with 'EN1276' selected), and 'Time of contact:'. The right column contains fields for 'Sodium hydroxide:', 'Water:', 'Blue dye:', 'Sodium percarbonate:', 'Dosage:', and 'Temperature:'. Each field has a small question mark icon to its right. At the bottom left of the form is a 'Predict' button.

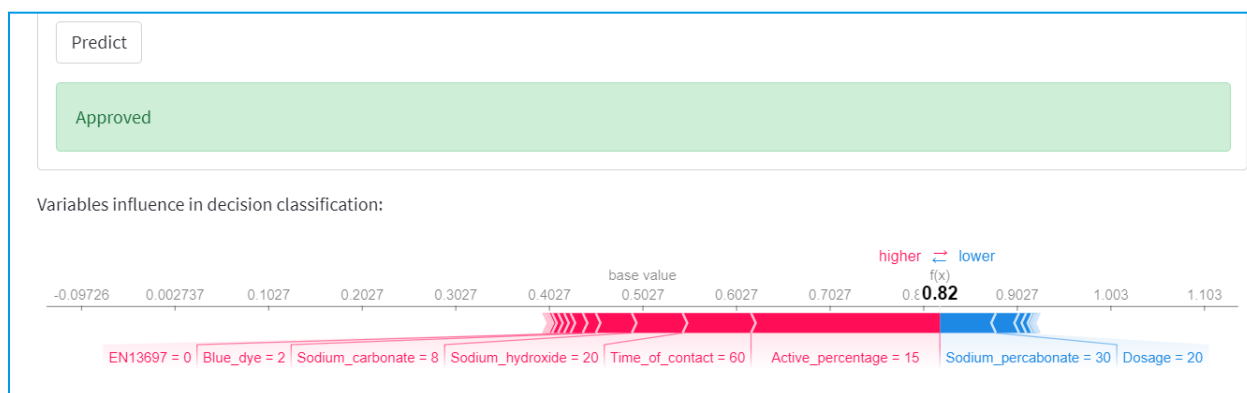
On this page, you have two ways of performing a prediction. You can either add your data by hand or upload a spreadsheet.

If you choose the first option, remember to enter the values with the proper measurement unit. You can check what it is by hovering over the Question Mark icon:

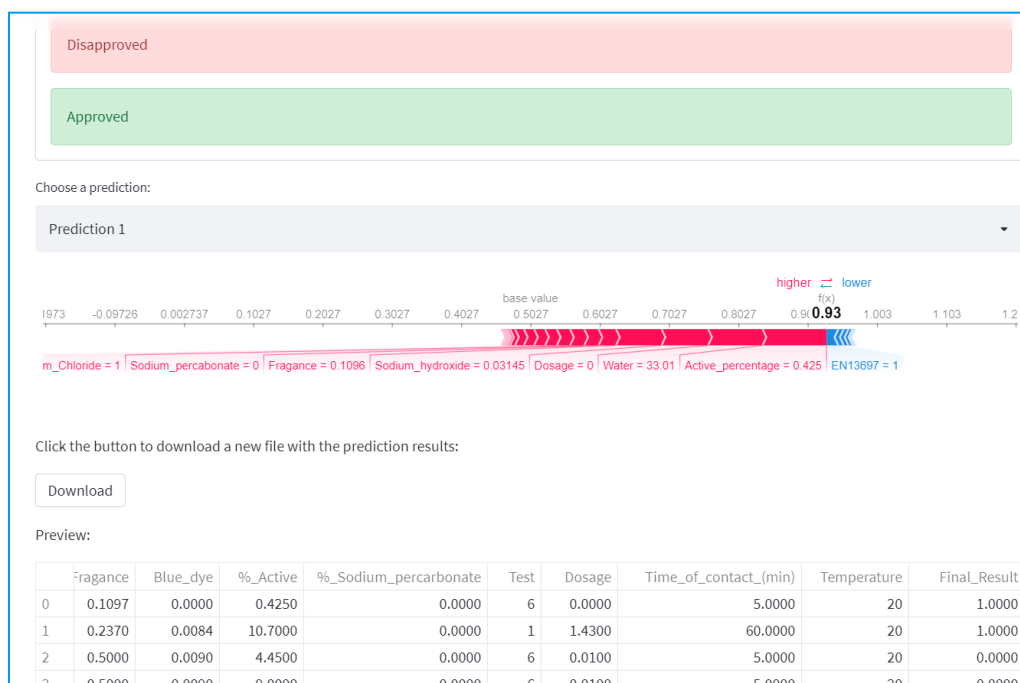
This close-up shows two input fields. The top field is labeled 'Sodium hydroxide:' and has a question mark icon to its right. A tooltip box is visible next to this icon, displaying 'Unit: %'. The bottom field is labeled 'Water:' and also has a question mark icon to its right, which is highlighted with a red square.

If you choose the second option, you just have to upload a CSV spreadsheet. There is a tutorial on the page on how to do it properly.

After that, you will be able to see the prediction's result, as well as an explanation of how the model concluded it:



**Note:** if you upload a spreadsheet with more than one substance, you will receive a list of results, an explanation for each prediction, and a spreadsheet with the final result included:



## Add new data

Add data by hand

Upload spreadsheet

Active:	Sodium hydroxide:
None	
Sodium carbonate:	Water:
Fragrance:	Blue dye:
Active percentage:	Sodium percarbonate:
Test:	Dosage:
EN1276	
Time of contact:	Temperature:
Final result:	
Disapproved	

Add new data

This is the auto deploy page. Here, you can add new data to the database so that the Machine Learning model can train again.

There are also two ways of adding the data. When doing it by hand, remember to enter the values with the proper measurement unit. And to upload a spreadsheet, there is a tutorial on the page on how to do it properly.

But it's not 100% automatic. After pressing the "Add new data" button, this is what you will see:

Download new model

Download new data

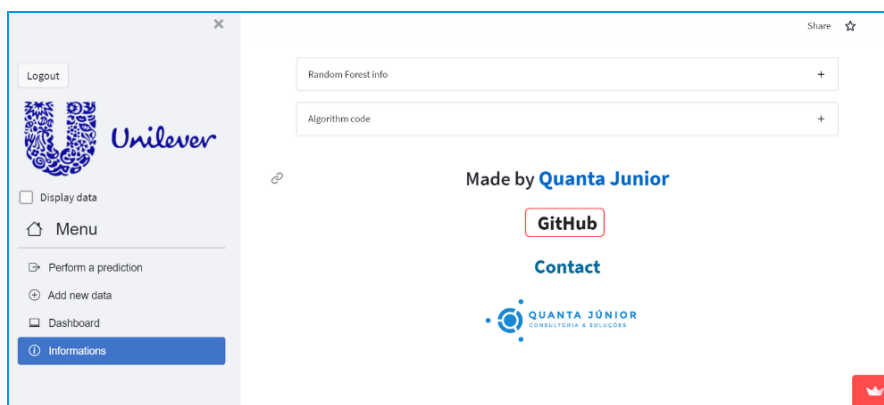
New model and new data must be uploaded to github. Check the tutorial to see how.

After that, follow these steps in order to complete the auto deploy:

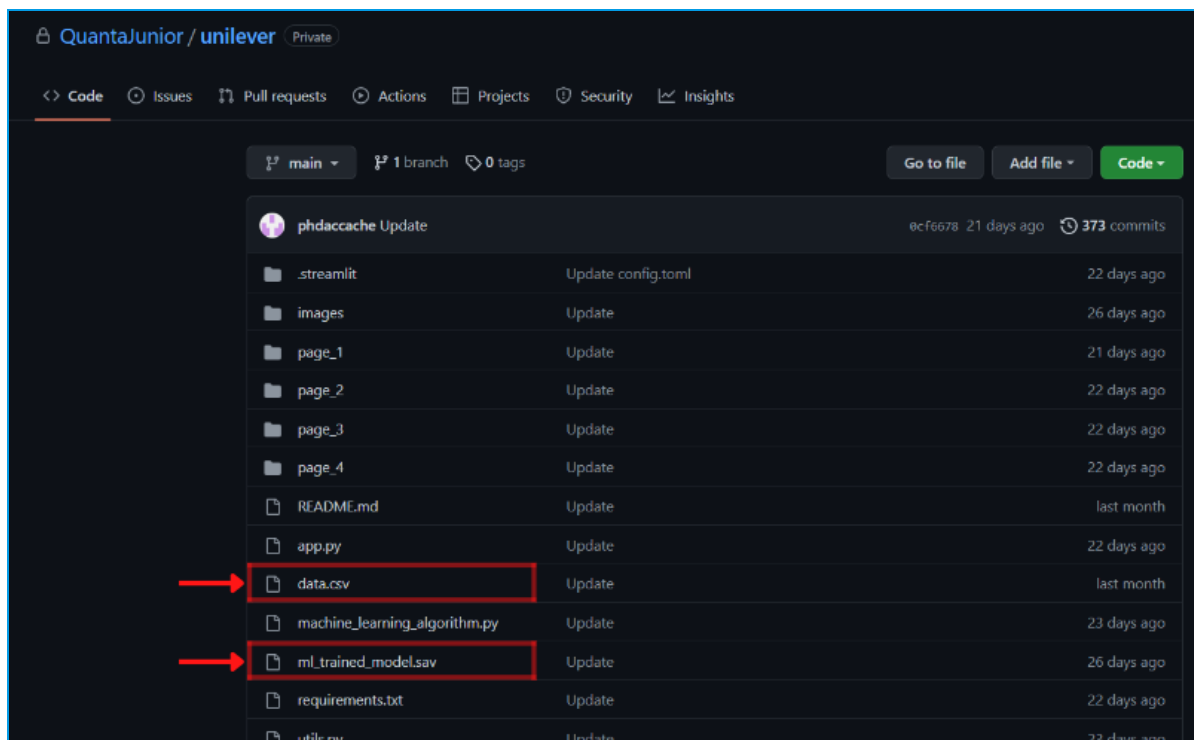
1. Check whether there is already a “data.csv” or a “ml\_trained\_model.sav” in your computer. If so, make sure to delete them before downloading the new ones.
2. Download the new model and the new data.
3. Check if the files names are correct. You must have a “data.csv” file and a “ml\_trained\_model.sav” file in your computer.

**Note:** It's possible that you can't see their extensions. In that case, you will only be able to see “data” and “ml\_trained\_model” files.

4. Go to the Github repository. You can access it [here](#) or on Informations page:

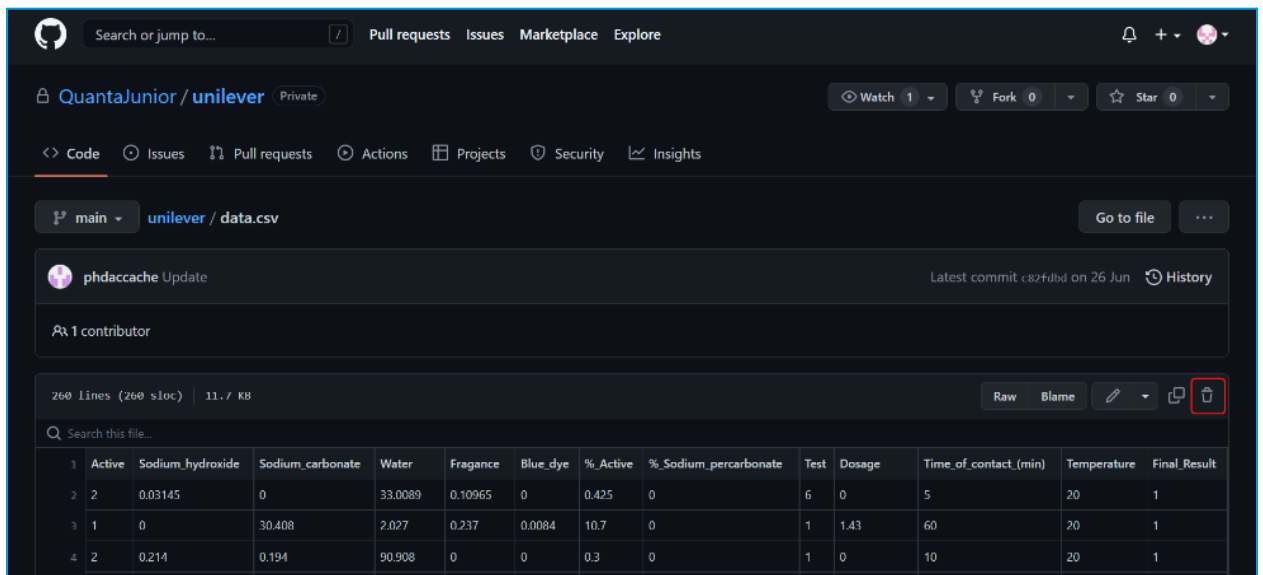


5. Delete the “data.csv” and “ml\_trained\_model.sav” files on Github:

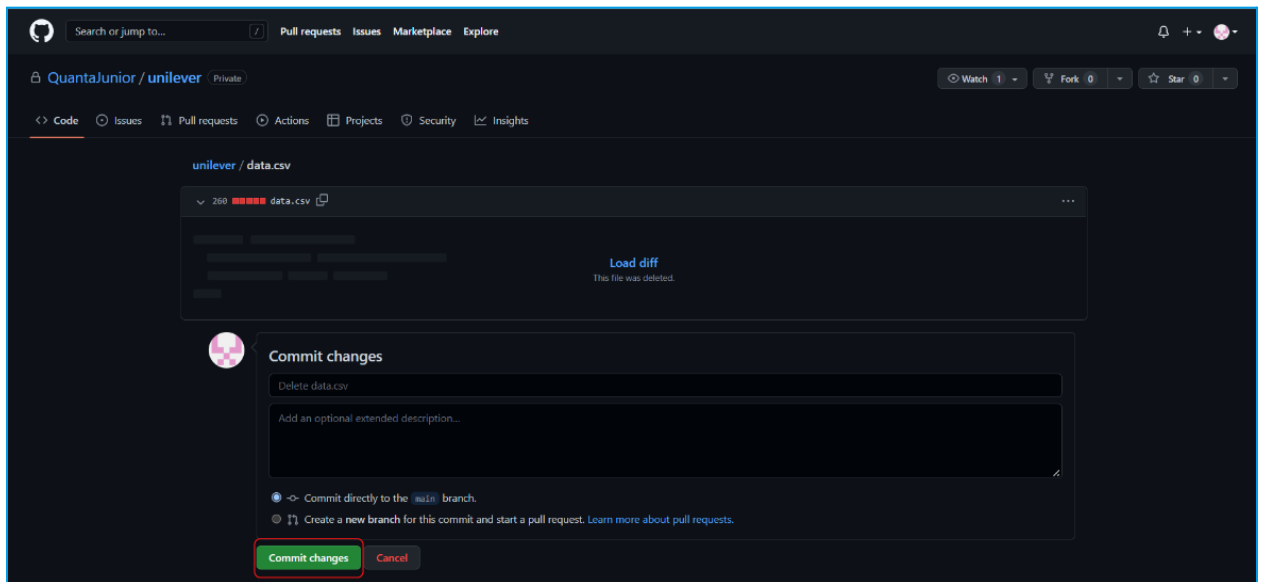




To delete a file, click on it, and then click on the trash bin located top right:

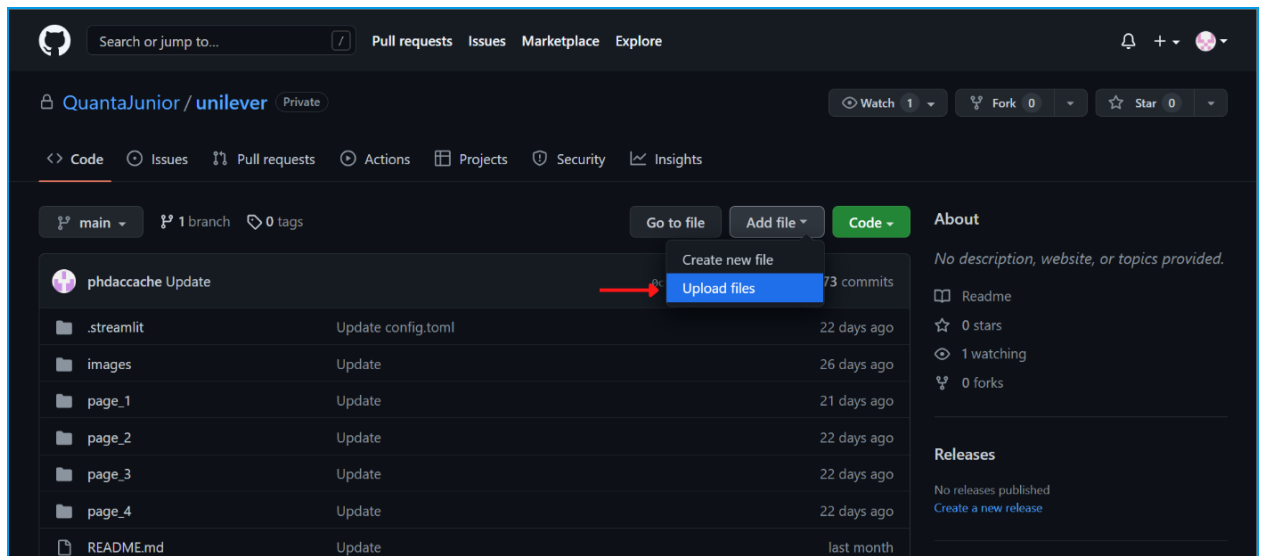


After that, press the “Commit changes” button:

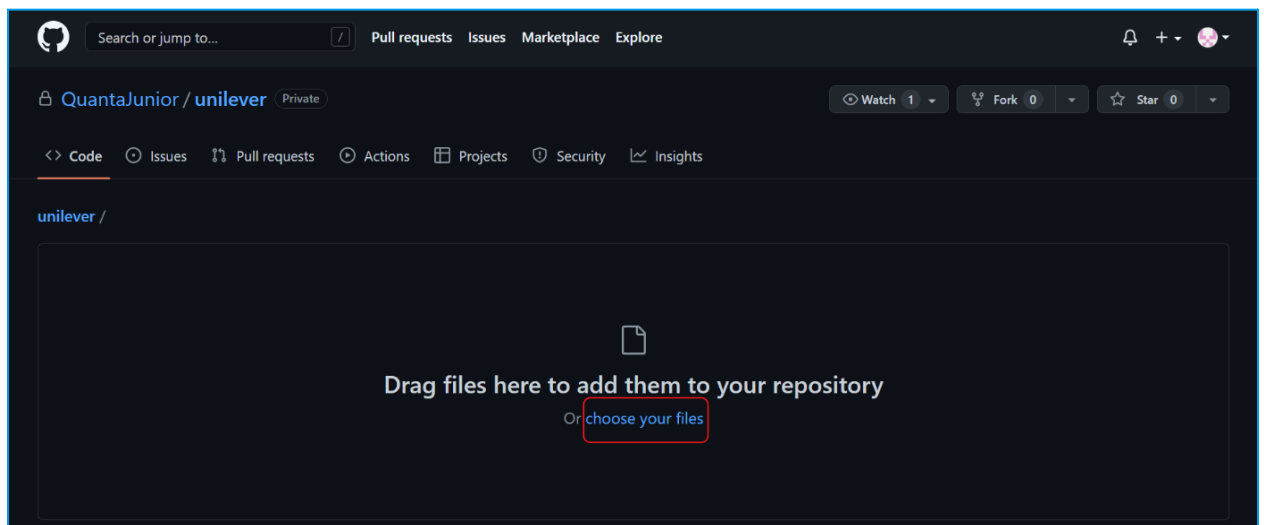


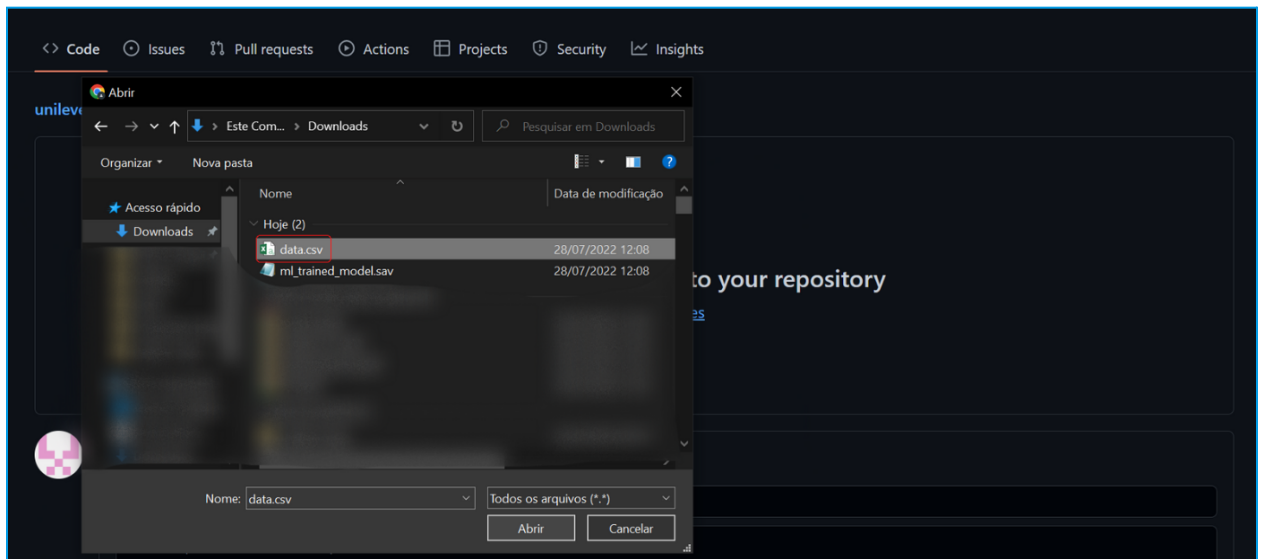
Do it for both files.

6. Now you have to upload the new files to GitHub. Press the “Add files” button and then the “Upload files” button:

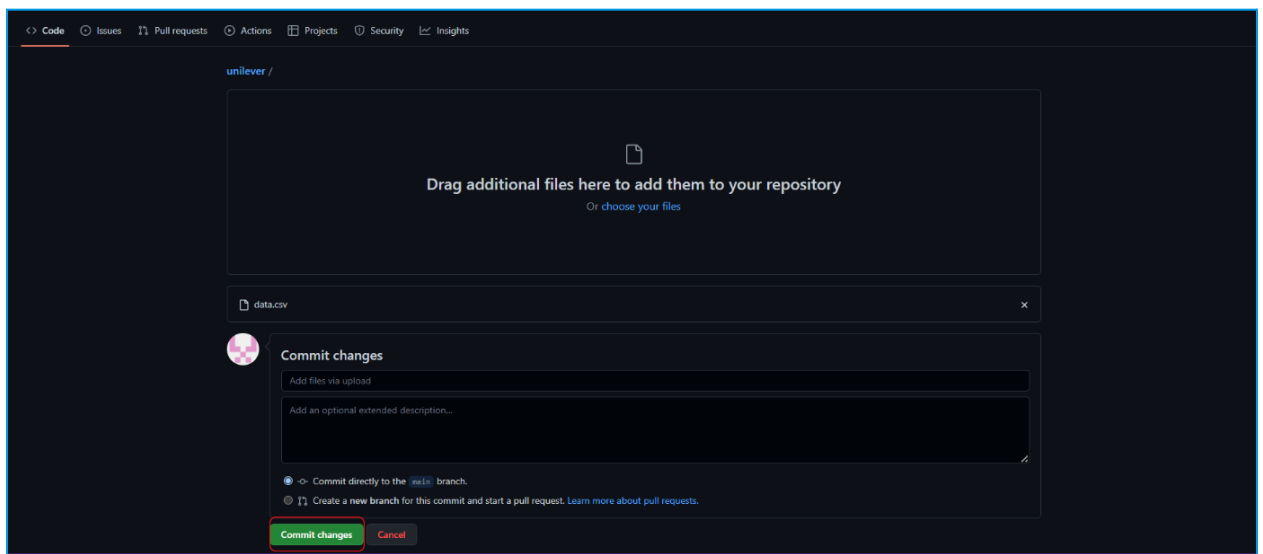


Click on “Choose your files” and select the file you downloaded before:





After that, press the “Commit changes” button:



Remember to do step 6 for both files.

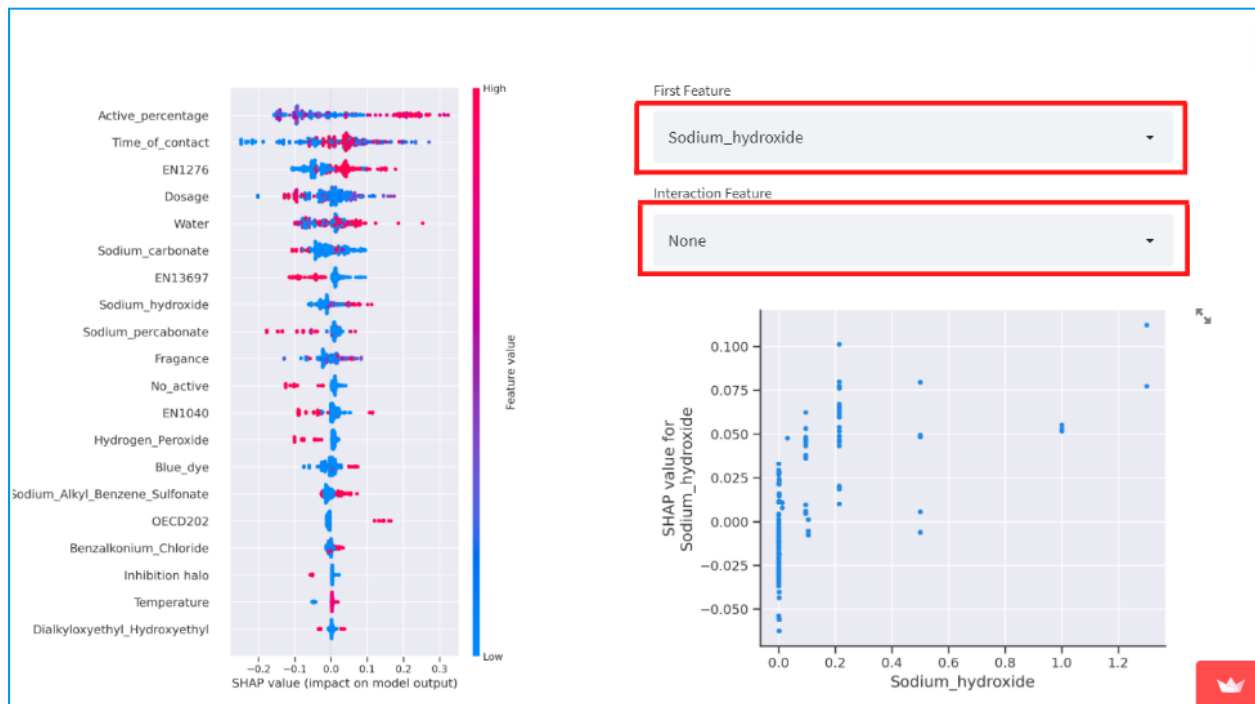
7. Finally, you might need to refresh the website page in order to see the changes. If you want to make sure it worked, press the “Display data” button at the left sidebar and see if the spreadsheet has changed.

## Dashboard

This is the Dashboard page. Here, you can click on “Metrics” to see important information about the algorithm, and on “Algorithm Explorer” to understand how the model concluded its predictions.



The first graphic (figure above) is interactive. So you can click on the checked boxes and choose which element you want to see.



The graphic on the right (figure above) is also interactive. You can analyze each element independently or compare them with another one by clicking on the checked boxes.

That's it! All the other information on this page is for visualization purposes only.

To get a better understanding on how to read each one, check the project's report.