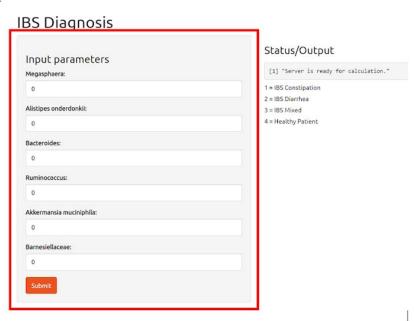
## **How To Use the IBS Diagnosis Web Application**

- 1. Go to website at "https://ibsdiagnosis.shinyapps.io/IBSDiagnosis/"
- 2. This is what the initial screen should show.

## **IBS** Diagnosis

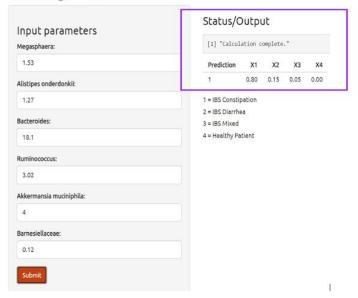
| Input parameters         | Status/Output                          |  |  |  |
|--------------------------|--|--|--|--|
| Megasphaera:             | [1] "Server is ready for calculation." |  |  |  |
| 0                        | 1 = IBS Constipation                   |  |  |  |
| Alistipes onderdonkii:   | 2 = IBS Diarrhea<br>3 = IBS Mixed      |  |  |  |
| 0                        | 4 = Healthy Patient                    |  |  |  |
| Bacteroides:             |  |  |  |  |
| 0                        |  |  |  |  |
| Ruminococcus:            |  |  |  |  |
| 0                        |  |  |  |  |
| Akkermansia muciniphila: |  |  |  |  |
| 0                        |  |  |  |  |
| Barnesiellaceae:         |  |  |  |  |
| 0                        |  |  |  |  |
| Submit                   |  |  |  |  |

3. Input bacteria values in the left side of the window shown in the red square. These values can be typed in.



- 4. Once all values have been input, click the button in orange that says "Submit"
- 5. Once this is done a short report will be displayed in the Status/Output panel of the site this is shown in the purple box below.

## **IBS Diagnosis**



- 6. The report will show the possibility of the patient having either IBS-Constipation which correlates with 1, IBS-Diarrhea for 2, IBS-Mixed for 3, and a Healthy Patient for 4. This information is also displayed in the legend below the report.
- 7. Under the "Prediction" Label, this is what the model has predicted what IBS subtype the patient may have, this is boxed in blue. Again the numerical value that is stated to be the prediction can be compared to the legend shown in the orange box below.

## **IBS** Diagnosis

| Input parameters         | Status/0       | Juch   | JL   |      |      |  |
|--------------------------|----------------|--|------|------|------|--|
| Megasphaera:             | [1] "Calcul    | [1] "Calculation complete."                              |      |      |      |  |
| 1.53                     | Prediction     | X1   | X2   | Х3   | X4   |  |
| Alistipes onderdonkii:   | 1              | 0.80   | 0.15 | 0.05 | 0.00 |  |
| 1.27                     |                | 1 = IBS Constipation                                     |      |      |      |  |
| Bacteroides:             |                | 2 = IBS Diarrhea<br>3 = IBS Mixed<br>4 = Healthy Patient |      |      |      |  |
| 18.1                     | 4 = Healthy Pa |  |      |      |      |  |
| Ruminococcus:            |                |  |      |      |      |  |
| 3.02                     |                |  |      |      |      |  |
| Akkermansia muciniphila: |                |  |      |      |      |  |
| 4                        |                |  |      |      |      |  |
| Barnesiellaceae:         |                |  |      |      |      |  |
| 0.12                     |                |  |      |      |      |  |
| Submit                   |                |  |      |      |      |  |