User Guide

1.To get started with PyCharm (python) you need to install it on your machine.  
1.download: Visit the official website https://www.jetbrains.com/pycharm/  
and download 3.9 version PyCharm for your operating system (Windows, Linux, or Mac).

2.Install: Run the installer and follow the step-by-step instructions. The default settings are usually appropriate for most users, but feel free to customize them according to your needs.

Go to the terminal and install  
pip install Pillow

pip install Tkinter

3.download from GitHub the project <https://github.com/amitgal21/Final_Project>.

4. Load the project in your PyCharm and install the library from the imports list.  
  
5.Make sure all path of images is located in Project folder.  
  
6. Run the toggle\_win.py file and run the code by clicking on run icon.

תמונה שמכילה טקסט, צילום מסך, תוכנה, תכונות מולטימדיה

התיאור נוצר באופן אוטומטי  
  
Training Model installation  
in the link of GitHub you have .ipynb files and the data set of bacteria.  
  
Dataset: download the Dataset to your drive because you have 8gb of images.  
Code: open in Google Collab the Identify\_Gram\_Pos&Neg.ipynb , Predict\_Bacteria\_Type.ipynb, calculate\_bacteria\_percentage.ipynb,

wrapper\_and\_auxiliary\_codes.ipynb, dataset\_statistics.ipynb.  
You need to ensure that all the paths are correctly set up for your Google Drive. First, you must connect to Drive by using the code at the top of every .ipynb file. Afterward, you can run the system training process or identification processes at any stage. Training files and valid image inputs are attached on GitHub. If you're unable to train the system due to the requirement of significant computing power, you will need to pay Google Collab a sum of money to receive additional computing power, as we did in the project.  
  
תמונה שמכילה טקסט, גופן, קו, צילום מסך

התיאור נוצר באופן אוטומטי  
in additional you need to install this libraries for running the code  
תמונה שמכילה טקסט, צילום מסך, גופן, קו

התיאור נוצר באופן אוטומטי  
  
This process takes close to 8 hours on average since the amount of data is very large.

8.2 Result View  
To view the project results, please click on "run" in PyCharm, and then in the top left corner, there are three lines that open the menu.  
  
תמונה שמכילה צילום מסך, שחור

התיאור נוצר באופן אוטומטי  
  
Using the mouse, select the option that suits you in order to view the project's results.

תמונה שמכילה טקסט, צילום מסך, גופן, מים

התיאור נוצר באופן אוטומטי