

WasDet Poster

Evidence-based Design

Background

Today in Kazakhstan we have a very hard ecological problem with waste. So we think the AI model can help with that, so we are going to try it. To do this task, we used Python language in it we used Scikit learn and PyTorch libraries for a model and Streamlit library for dashboard.

Method

Central Abstract

We used pre-trained resnet50() model for classification . And used two types of datasets
1) Kaggle dataset
2) Dataset that is gathered by our own hands
Here is the question why we used Kaggle dataset, cause it is very helpfull to understand the disadvantages of gathered dataset

Built-in QR Code

Here we upload our video on how we did the final project , actually what we used to create our model , so give a chance to the video and watch it if it is interesting.

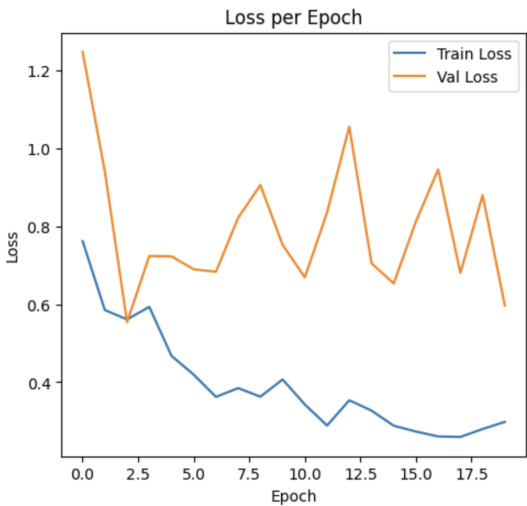
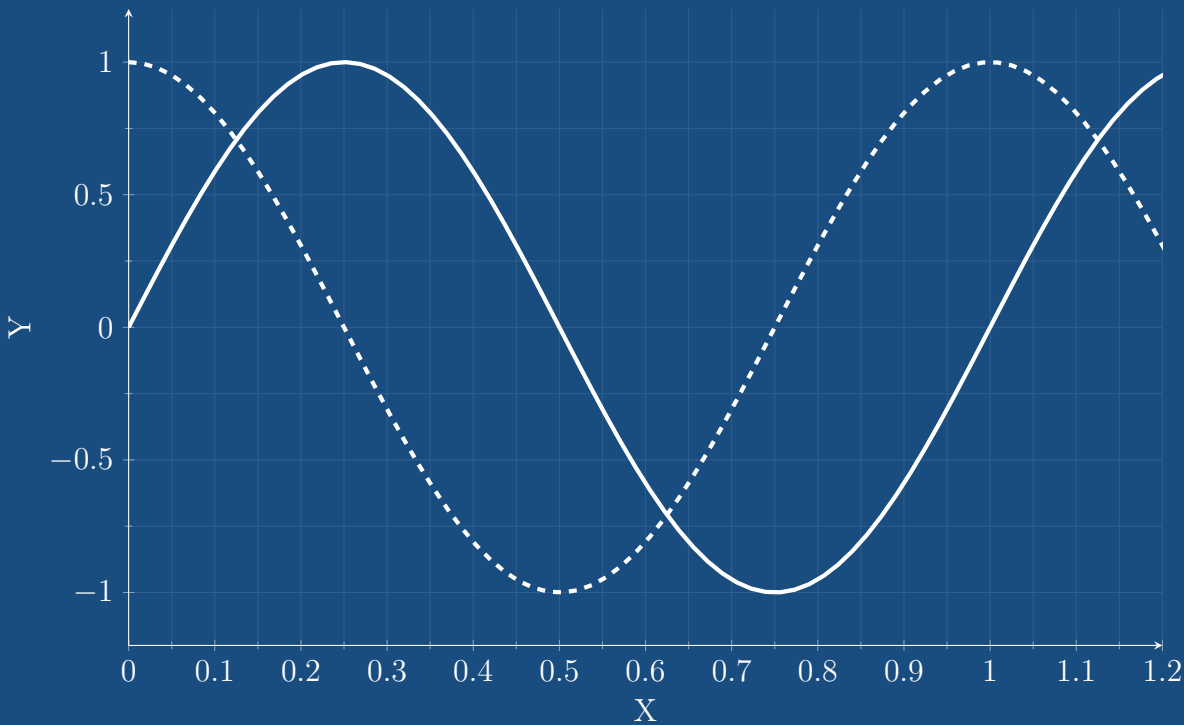
Results

The moment for results. After we have run the model we have seen that the data collected and the data from Kaggle are very simple at accuracy , but Kaggle dataset is better at recall and precision and etc.

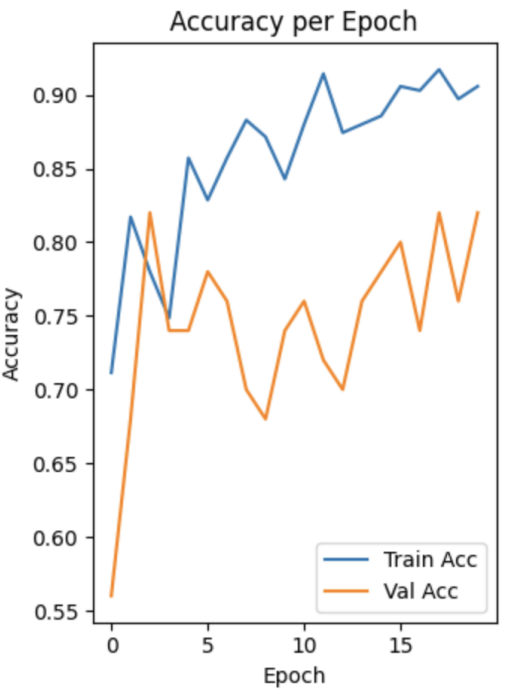
Conclusion

After our some little research we can conclude that by using AI models we can classify the trash , and maybe in far future or may be in the near future it will help to overcome problem of trash in the nature , that is the big problem of the Ecology. And it will help to get future brighter .

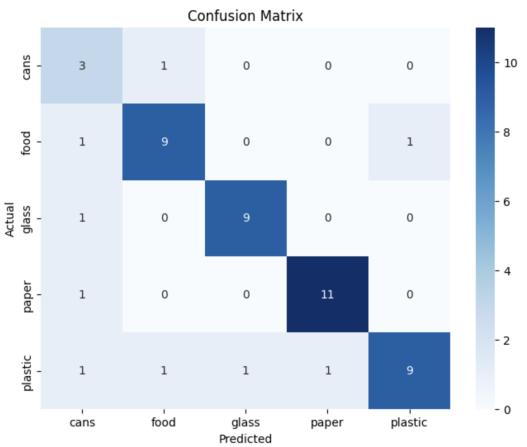
Trash Classification with CNN and Streamlit dashboard.



Loss changes and fluctuations by each epoch.



Accuracy changes and fluctuations by each epoch.



Confusion matrix.



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