

Machine Learning Project - MLthon

Malik Jahan Khan, PhD
Department of Computer Science
Namal Institute, Mianwali
malik.jahan@namal.edu.pk

1 Data

This project is based on the dataset available at <https://www.kaggle.com/emmarex/plantdisease>. You are expected to download the data related to health of 'pepper' only.

2 Problem Statement

You are required to complete the following tasks as part of your project:

1. Implement a classifier of your choice and AlexNet model for the classification of health of pepper.
2. Perform an exhaustive comparison between both models with respect to their accuracy, recall and precision.
3. Perform an exhaustive comparison between both models with respect to their data splits.
4. Download sample random images from the internet related to health of pepper and test your models on the unseen and raw images.
5. All results and analysis need to be presented in a document of not more than 10 pages.

You may use the following tutorial and AlexNet paper (already uploaded over LMS) as reference point:

<https://towardsdatascience.com/implementing-alexnet-cnn-architecture-using-tensorflow-2-0-and-keras-2113e090ad98>

You are highly encouraged to use Google CoLab for your implementation support.

You are required to use the appropriate evaluation measures and validation methods to conclude your findings. For some of the tasks, you may have to pre-process the data appropriately.

3 Deliverables and Deadline

Your submission must include:

1. Python source code to be uploaded over LMS under the heading of “Project-Code-Submission”.
2. Technical report written in Latex or MS Word to be uploaded over LMS under the heading of “Project Report” in PDF format. No other format is acceptable.

All the deliverables need to be uploaded over LMS under corresponding heading latest by Monday, July 19, 2021 11:59PM.

4 Evaluation Mode

You may work in groups of your choice of not more than 3 members. This project carries 15% weight towards your final grade of the course.

In case of any queries, please feel free to consult the instructor. Also, please do go through the “Honor Code” uploaded over LMS before your start the project.