

**Artificial Intelligence**

**Module 6 Assignment**

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**Assignment Questions**

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**Tasks to be performed:**

1. A Plant Pathology client is working on identifying diseases impacting agricultural crops. They have a dataset of crop images with labels of diseases impacting them. Dataset can be found here: <https://www.kaggle.com/c/plant-pathology-2020-fgvc7/overview>
2. Create an EDA report for the above stated problem, outlining what & why of your approach?
3. A Plant Pathology client is working on identifying diseases impacting agricultural crops. They have a dataset of crop images with labels of diseases impacting them. But the client is unable to provide more images (as requested by you) for training:
4. What is the typical routine you will follow here (when data is scarce)?
5. What are the basic augmentation techniques you can follow here, please explain how and why they are useful (for plant leaf images) ?
6. Try to use augmentation packages other than ImagDataGenerator from keras, example - `imgaug`
7. Iterate over and try different architecture and topologies and preserve the results of each experiment using TensorBoard. Also, save major metrics in an Excel (or try W&B).
8. For the above prepared model prepare a classification report with major metrics (confusion metric, recall, precision., etc) on the test data.
9. For the above problem statement, save the model and re-use it in another Collab sheet and perform a prediction. For prediction, create a separate function which will expect an input image and output the prediction label (with confidence).