Microsoft Rice Disease Classification
ASSAZZIN SOLUTION

Environment :

1. Colab Pro +
2. GPU Used : A100 for 2 models and V100 for 1 model

How to Run My Solution :

3. Run : MicrosoftRice_Solution_SwinBase_V2_384.ipynb
4. Run : MicrosoftRice_Solution_SwinLarge_V2_256.ipynb
5. Run : MicrosoftRice_Solution_SwinLarge384.ipynb
6. Run : MicrosoftRice_Solution_Blend.ipynb

My Solution Summary :

- After 1 week of explorations , i understand that :
    - images are small , so random cropping with image size 448 or 384 will not be usefull
    - based on the last hint, i used 2 resizing configs , one to resize images and one for cropping (for example 224 cropping and 384 resize)
    - using heavy augmentations :
    - color augmentations such like equalize ,Clahe , hue staturation , and color jitter
    - blur augmentationss
    - brightness augmentations
    - flip augmentations
    - rotations/translations
    - I used some training optimization tricks , so i can train large models with large images
    - transformers outperform all (swin large is really amazing in this competition)

Things I didn’t manage to experiment :

- I was lazy to implement such costum augmentation called random vertical cropping , as i find that 75% of targets are in the middle of image , so i can crop with taking 100% of height , but taking 60% of width , like this model will not be confused . I'm sure this will improve my work