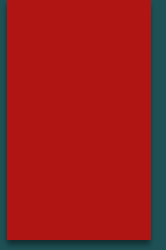


Image Colorfulness Identification



USER CASE DESCRIPTION

- ▶ Verify whether the image is grey or color along with the percentage of confidence

PROBLEM BEING SOLVED

- ▶ This problem statement talks about the need to automate the identification of the images as color or grey, which would help the publisher in decision making.

SOLUTION APPROACH AND ARCHITECTURE

- ▶ I USED CONCEPT OF TRANSFER LEARNING AS GIVEN DATA IS VERY MUCH LESS TO TRAIN A CNN MODEL.
- ▶ I USED VGG19 MODEL WITH IMAGENET WEIGHTS AND TRAINED THE MODEL ON LOCAL DATASET PROVIDED BY TECHGIG.
- ▶ I THEN USED PREDICTION METHOD WHICH SHOWS PROBABILITY ALONG WITH PREDICTION TO SHOW PERCENTAGE OF CONFIDENCE

TECHNOLOGY/TOO/CLOUD STACK



- ▶ I USED GOOGLE COLLAB TO TRAIN MY MODEL AND USED GOOGLE DRIVE API TO TRANSFER THE DATASET TO GOOGLE COLLAB.
- ▶ I USED KERAS FRAMEWORK.

HARDWARE DESCRIPTION

- ▶ I TRAINED MODEL ON GOOGLE COLLAB AND SAVED THE MODEL IN H5 FORMAT.
- ▶ LATER FOR PREDICTION I USED MY LAPTOP WHICH IS HAVING 4 GB RAM , I5 7TH GEN.

DEMONSTRATION VIDEO/PROTOTYPE LINK

- ▶ <https://github.com/redpheonixx/Springer-Nature-Pune-Hack-day>

WHY YOUR SOLUTION SHOULD BE CONSIDERED FOR THE FINAL ROUND

- ▶ THE MAIN PROBLEM WITH THE DATASET WAS IT'S SIZE ONLY 211 IMAGES WERE PROVIDED IN TRAIN DATASET.
- ▶ I FIRSTLY USED DATA AUGMENTATION TO INCREASE IMAGE COUNT.
- ▶ THEN I USED TRANSFER LEARNING.
- ▶ I GOT AN ACCURACY OF 0.9861 AND LOSS OF 0.0592

CHALLENGES FACED

- 1) LESS NUMBER OF IMAGES
- 2) COMPUTING POWER TO TRAIN DEEP ARCHITECTURE LIKE VGG19
- 3) DECREASING LOSS

POSSIBLE IMPROVEMENT

- ▶ **SCRAPPING DATA TO INCREASE DATASET.**
- ▶ **INCREASING IMAGE SIZE.**
- ▶ **USING DIFFERENT ACTIVATION FUNCTION.**

THANK YOU