

GROUP PROJECT PRESENTATION ON

PLANT CLASSIFICATION USING INCEPTION MODULE

MOHAIMINUL ISLAM MESHAL

STUDENT ID: 16201043

DEPARTMENT OF CSE

BRAC UNIVERSITY, DHAKA

MD ZUNAYEDUL ISLAM

STUDENT ID: 20101381

DEPARTMENT OF CSE

BRAC UNIVERSITY, DHAKA

MOHAMMAD SIAM

STUDENT ID: 19301205

DEPARTMENT OF CSE

BRAC UNIVERSITY, DHAKA

MOTIVATION

Ever since childhood, we have had a problem remembering the names of the flowers. Flowers are so beautiful that we get mesmerized. That is the reason why we tried to build a neural network architecture that can classify and identify a flower with outstanding accuracy.



METHODOLOGY

Preprocessing

After importing the necessary libraries, the contrast of all images was stretched using the CLAHE method and compared with the original ones.

Building the Model

The model was built using the Inception module, global average pulling, dropout and dense layers.

Training & Evaluating

The model was trained on over 3000 images with a batch size of 32 for 10 epochs.

PREPROCESSING

Daisy (Original)



Dandelion (Original)



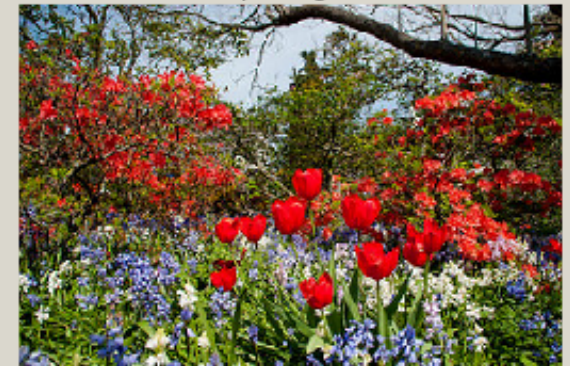
Rose (Original)



Sunflower (Original)



Tulip (Original)



Daisy (CLAHE)



Dandelion (CLAHE)



Rose (CLAHE)



Sunflower (CLAHE)



Tulip (CLAHE)

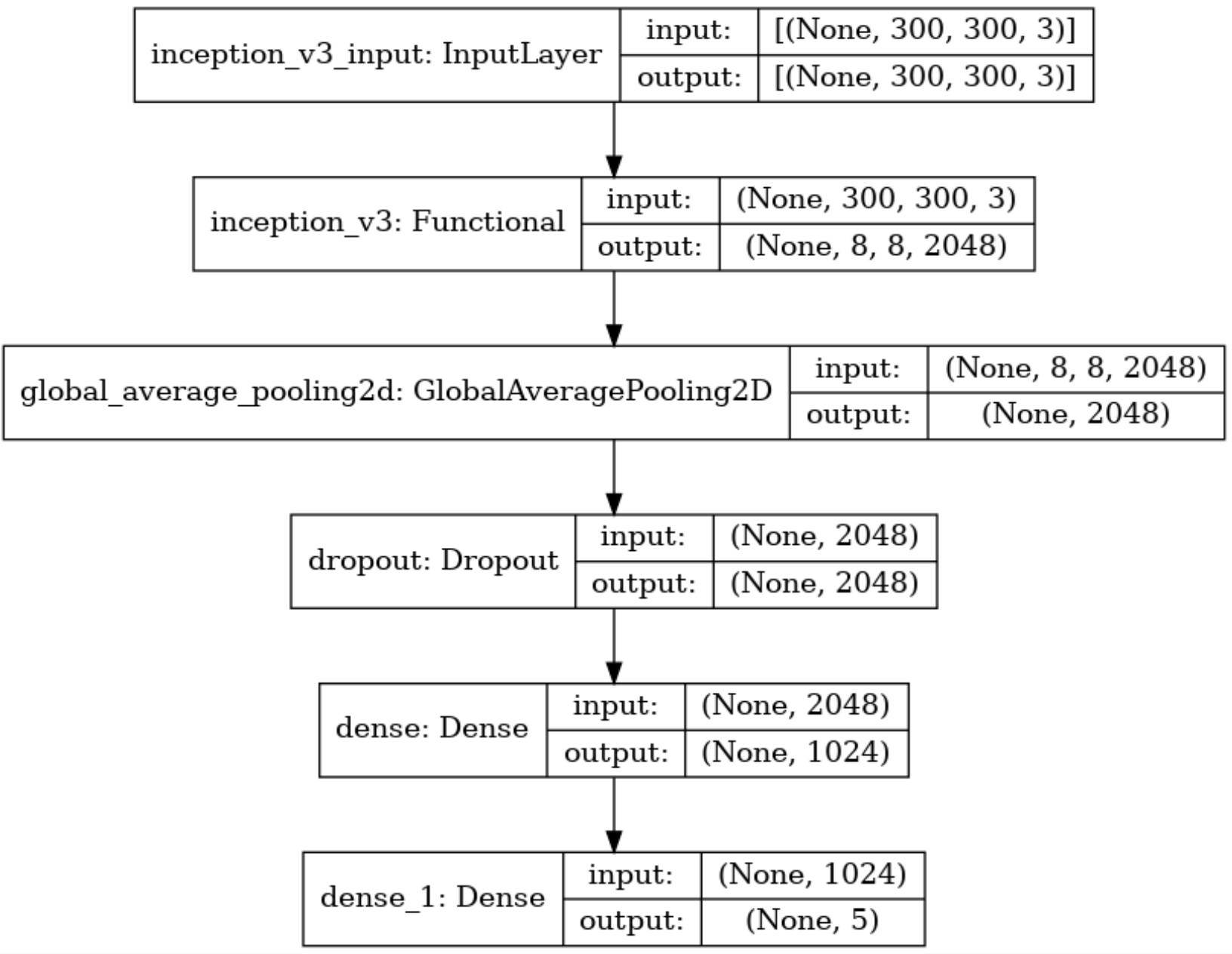


PLANT CLASSIFICATION USING INCEPTION MODULE

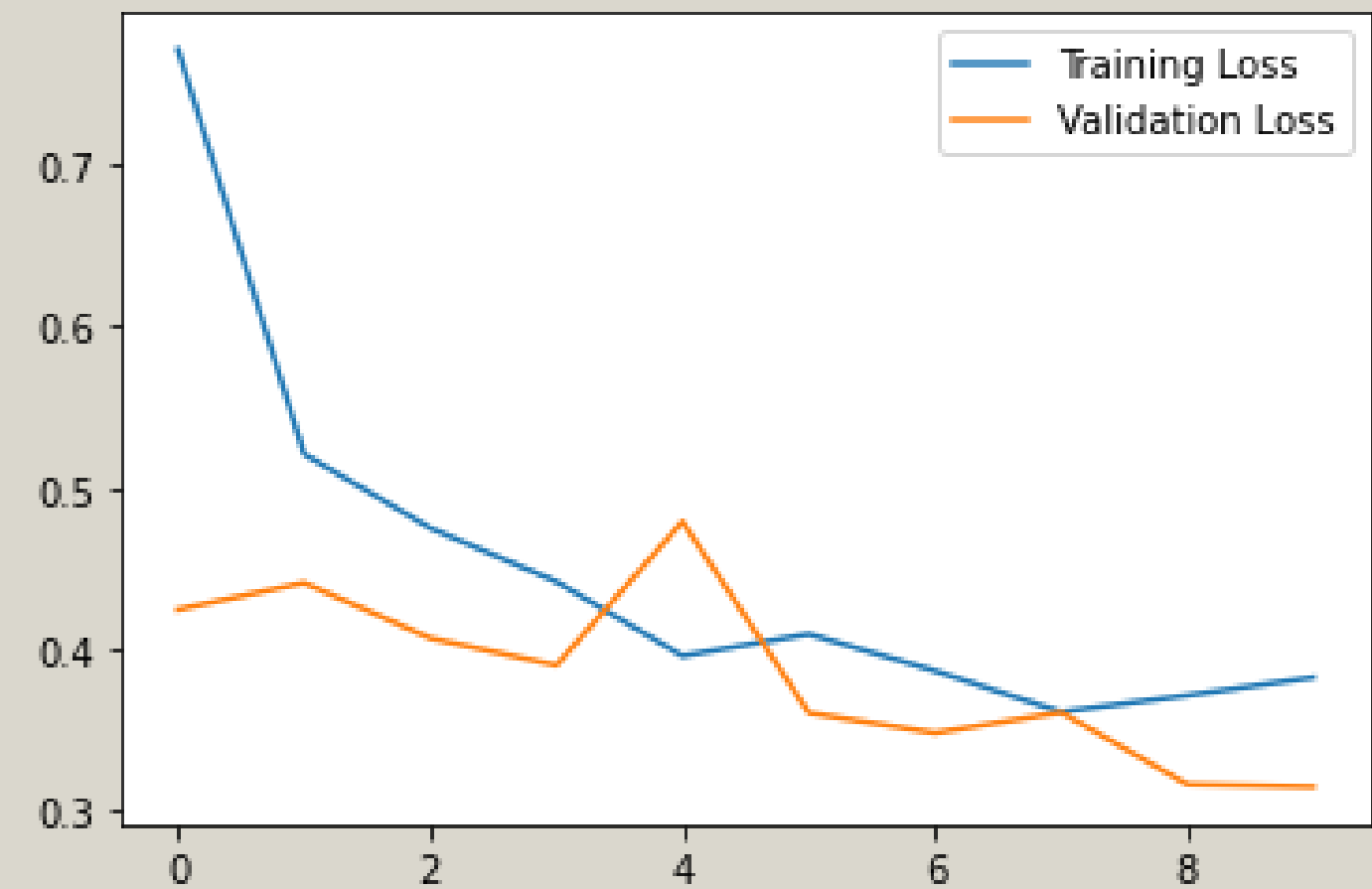
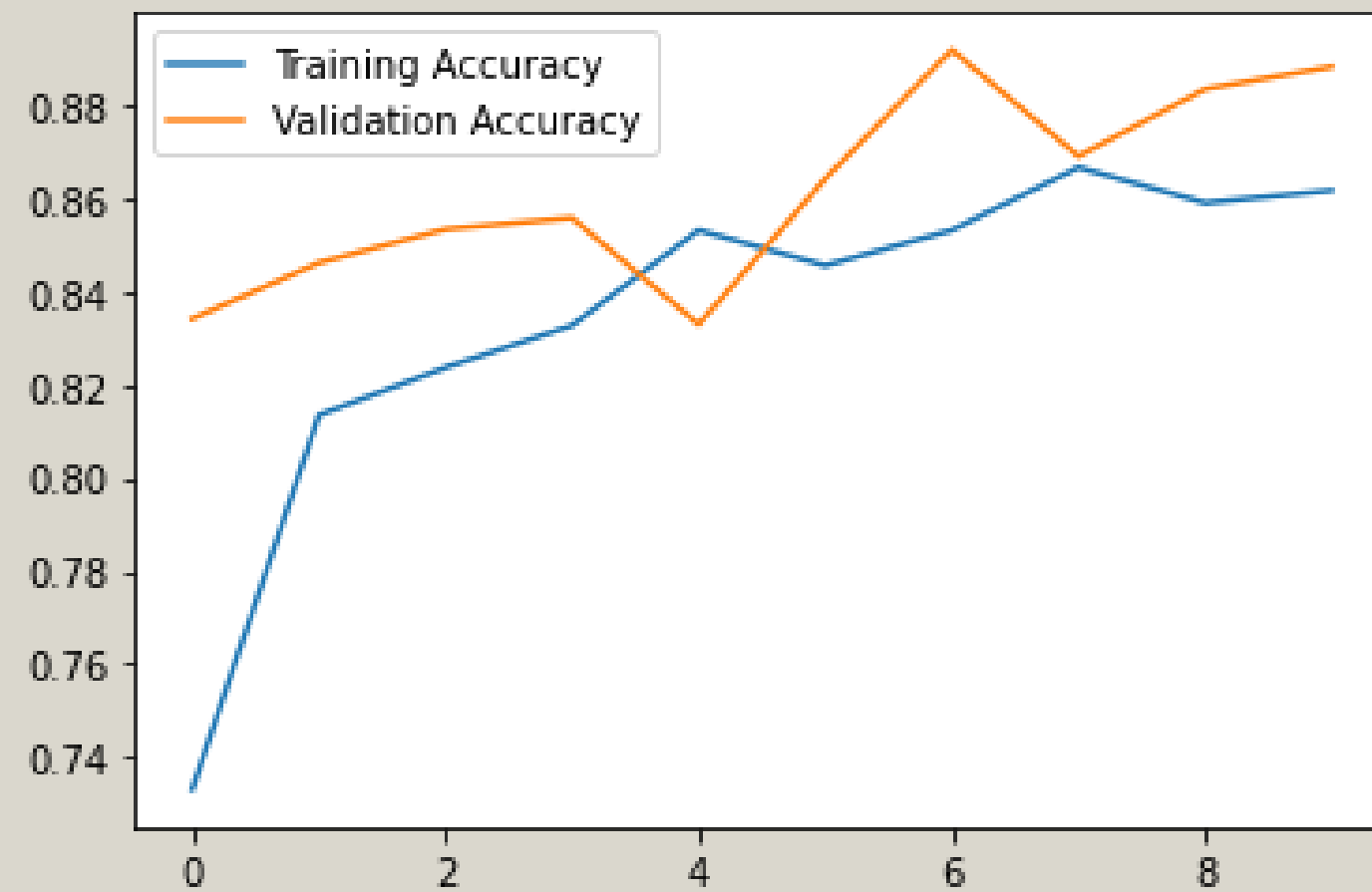
MODEL NETWORK ARCHITECTURE

Model: "sequential"

Layer (type)	Output Shape	Param #
=====		
inception_v3 (Functional)	(None, 8, 8, 2048)	21802784
global_average_pooling2d (GlobalAveragePooling2D)	(None, 2048)	0
dropout (Dropout)	(None, 2048)	0
dense (Dense)	(None, 1024)	2098176
dense_1 (Dense)	(None, 5)	5125
=====		
Total params: 23,906,085		
Trainable params: 2,103,301		
Non-trainable params: 21,802,784		

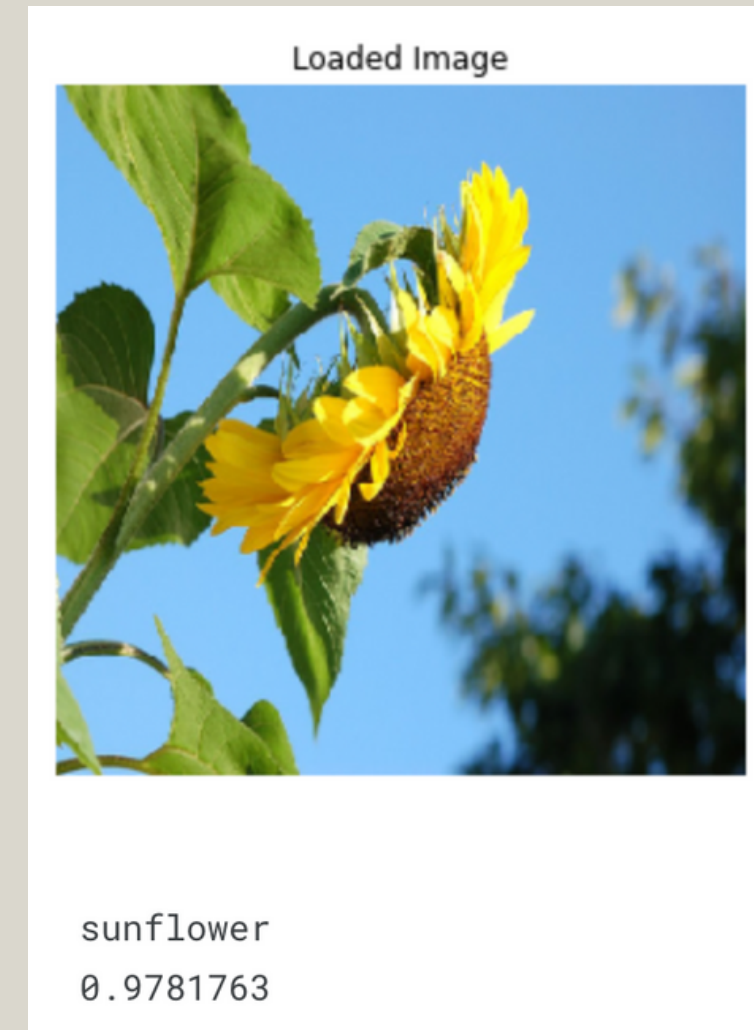
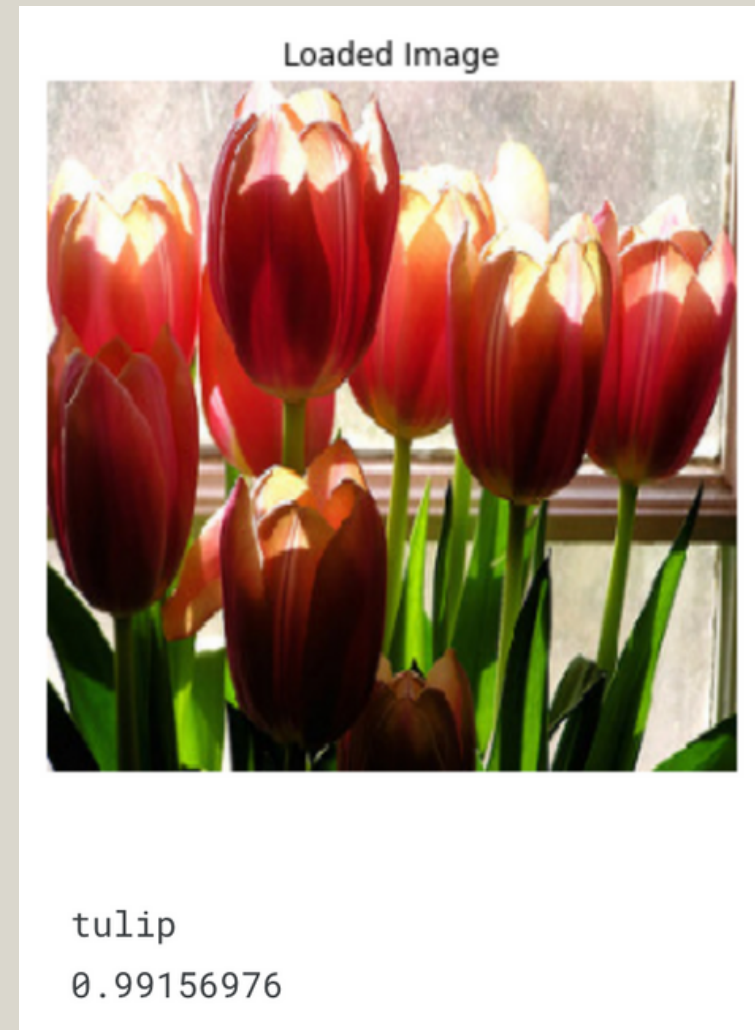


TRAINING EVALUATION



PLANT CLASSIFICATION USING INCEPTION MODULE

TESTING PERFORMANCE



NOTEBOOK

PLANT CLASSIFICATION USING INCEPTION MODULE