



Model Development Phase Template

Date	9 July 2024
Team ID	SWTID1719992739
Project Title	Visual Diagnostics: Detecting Tomato Plant Diseases through Leaf Image Analysis
Maximum Marks	10 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include a summary and training and validation performance metrics for multiple models, presented through respective screenshots.

Initial Model Training Code (5 marks):

Paste the screenshot of the model training code

Model Validation and Evaluation Report (5 marks):

Model	Summary				Training and Validation Performance Metrics
	model.summary() ✓ 18s Model: "model"				Open 1/15
	Layer (type)	Output Shape	Param #	Connected to	Epoch 3/15 125/125 [
	imput_1 (InputLayer)	[(None, 256, 256, 3)]			Epoch 4/15 125/125 [
	conv1_pad (ZeroPadding2D)				Epoch 5/15
	conv1_conv (Conv20)	(None, 128, 128, 64)		['conv1_pad[0][0]']	125/125 [=======] - 281s 2s/step - loss: 0.0710 - accuracy: 0.9772 - val_loss: 0.1339 - val_accuracy: 0.9570 Epoch 6/15
ResNet152V2	pool1 pad (ZeroPadding2D)	(None, 130, 130, 64)		['conv1 conv[0][0]']	125/125 [
	pools pool (MaxPooling2D)	(None 64 64 64)		['pool1 pad[0][0]']	125/125 [
	, , , , , , , , , , , , , , , , , , , ,				125/125 [====================================
	conv2_block1_preact_bn (Ba tchNormalization)	(None, 64, 64, 64)		[,bcol1_bcol[6][6],]	Epoch 9/15 125/125 [
	conv2_block1_preact_relu ((None, 64, 64, 64)		['conv2_block1_preact_bn[0][0]	Epoch 10/15 125/125 [
	Activation)				Epoch 11/15
	conv2_block1_1_conv (Conv2 D)	(None, 64, 64, 64)		['conv2_block1_preact_relu[0][0]']	125/125 [===========] - 280s 2s/step - loss: 0.0262 - accuracy: 0.9926 - val_loss: 0.0862 - val_accuracy: 0.9680 Epoch 12/15
	1 T				125/125 [
	conv2_block1_1_bn (BatchNo rmalization)	(None, 64, 64, 64)		['conv2_block1_1_conv[0][0]']	···
	 Total params: 60390658 (230	.37 HB)			Epoch 14/15 125/125 [
	Trainable params: 56430338 Non-trainable params: 39603				Epoch 15/15 125/125 [





Mobilenetv2	**	Epoch 1/15 125/125 [
	Ministration (Section	<pre>Epoch 2/15 125/125 [====================================</pre>
	Note to destroine in this (now, 4, 4, 800) 1866 ["Note in particle [1] [0]"] (Normalized by	125/125 [====================================
	block is surveduc your (6 (1000) E. S. 508) 6 [Block is startwise 50(8) 8]	125/125 [========================] - 200s 2s/step - loss: 0.1859 - accuracy: 0.9394 - val_loss: 1.6982 - val_accuracy: 0.5166 [spech 5/15
	block 16 profest (Condit) (Now, I, 3, 339) 97383 Slock 16 dustwick role (9)1	125/125 [
		125/125 [
		125/125 [
	Core 1 be (Section-milion (Nows, 2, 3, 8185) 8236 ['Year 1 (4(1))']	Epoch 9/15 125/125 [
	ort valu (Roll) (None, I, S, 1385) 8 ("Care 1 br(1) 4")	fpoch 18/15 125/125 [====================================
	girral, servan (molinadel 1 (Nove, 1999) 6 ("tat. rele(1)89") (Timealternapheninadel)	Epoch 11/15 125/125 [====================================
	(2014) (2	fpoch 12/15 125/125 [
DenseNet	Cores 5 (Inno) (None, 25) 88605 (Teres 4-0)[8"]	Epoch 13/15 125/125 [
	Tecal parces: 354854 (13.54 PB)	Epoch 14/15 125/125 [
	Instants permit (13.45 M) for trained to some (19644 (1.36 M))	Epoch 15/15 125/125 [
	======================================	125/125
	sation) transference (ease, a, c, 12a) a [transferences/[misled [Epoch 3/15 125/125 [====================================
	com5_block32_3_com (Com (Nove, 4, 8, 12) 18884 ['com5_block32_1_relu[6][6]'] 20)	125/125 [
	cam5_block32_concut (Conc. (Name, 8, 8, 1920) 0 ['conr5_block31_concut(6][0]', atomic (conr5_block32_2_conr6[0]')'	125/125 [
	in (Batritonnalization) (Nove, 8, 8, 1826) 7680 ['more', block22_const(6)[6']]	129/125
	relu (Activation) (None, 8, 8, 1900) 0 ['bn[8][8]')	Epoch 8/15 125/125 [
	global average pooling2d ((None, 1900) 0 ['rela(0)[0'']	Epoch 9/15 125/125 [
	Global Average Pool ing(0)	Epoch 10/15 125/125 [
	<pre>dense (Mense) (Mane, 1898) 1922088 ['global_everage_pooling2d[0][</pre>	Epoch 11/15 125/125 [====================================
	donse_L (Cense) (Hone, 18) 10810 ["dense[8][8]")	125/125 [
	***************************************	125/125 [
	Total parens: 2025294 (77.25 MI) Trainable parens: 13218945 (50.43 MI)	125/125 [
	ton-trelable parase; NEAGUS (20.8) ND)	/usr/local/lib/python3.10/dist-packages/keras/src/engine/training.py:3183: UserWarning: You are saving your model as an HDFS file v
		Epoch 15/15 125/125 [