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### Code Output

Cell 3:

Downloading data from

[https://storage.googleapis.com/keras-applications/efficientnetb0\\_notop.h5](https://storage.googleapis.com/keras-applications/efficientnetb0_notop.h5)

8192/16705208 [.....] - ETA: 0s  
4874240/16705208 [=====>.....] - ETA: 0s  
14917632/16705208 [=====>.....] - ETA: 0s  
16705208/16705208 [=====] - 0s 0us/step  
100% |10/10 [31:58<00:00, 191.82s/trial, best loss: 2.3034892082214355]

Cell 4:

Epoch 1/10

625/625 [=====] - 23s 25ms/step - loss: 2.4104 - accuracy:  
0.0996 - val\_loss: 2.3052 - val\_accuracy: 0.1040

Epoch 2/10

625/625 [=====] - 14s 23ms/step - loss: 2.3079 - accuracy:  
0.0971 - val\_loss: 2.3042 - val\_accuracy: 0.0979

Epoch 3/10

625/625 [=====] - 12s 19ms/step - loss: 2.3056 - accuracy:  
0.0992 - val\_loss: 2.3061 - val\_accuracy: 0.0973

Epoch 4/10

625/625 [=====] - 11s 18ms/step - loss: 2.3047 - accuracy:  
0.1001 - val\_loss: 2.3060 - val\_accuracy: 0.1023

Epoch 5/10

625/625 [=====] - 12s 20ms/step - loss: 2.3045 - accuracy:  
0.1009 - val\_loss: 2.3039 - val\_accuracy: 0.0979

Epoch 6/10

625/625 [=====] - 12s 20ms/step - loss: 2.3080 - accuracy:  
0.1004 - val\_loss: 2.3060 - val\_accuracy: 0.0933

Epoch 7/10

625/625 [=====] - 12s 20ms/step - loss: 2.3044 - accuracy:  
0.1000 - val\_loss: 2.3045 - val\_accuracy: 0.0933

Epoch 8/10

625/625 [=====] - 13s 20ms/step - loss: 2.3045 - accuracy:  
0.0983 - val\_loss: 2.3065 - val\_accuracy: 0.0933

Epoch 9/10

625/625 [=====] - 12s 19ms/step - loss: 2.3047 - accuracy:  
0.0979 - val\_loss: 2.3045 - val\_accuracy: 0.0933

Epoch 10/10

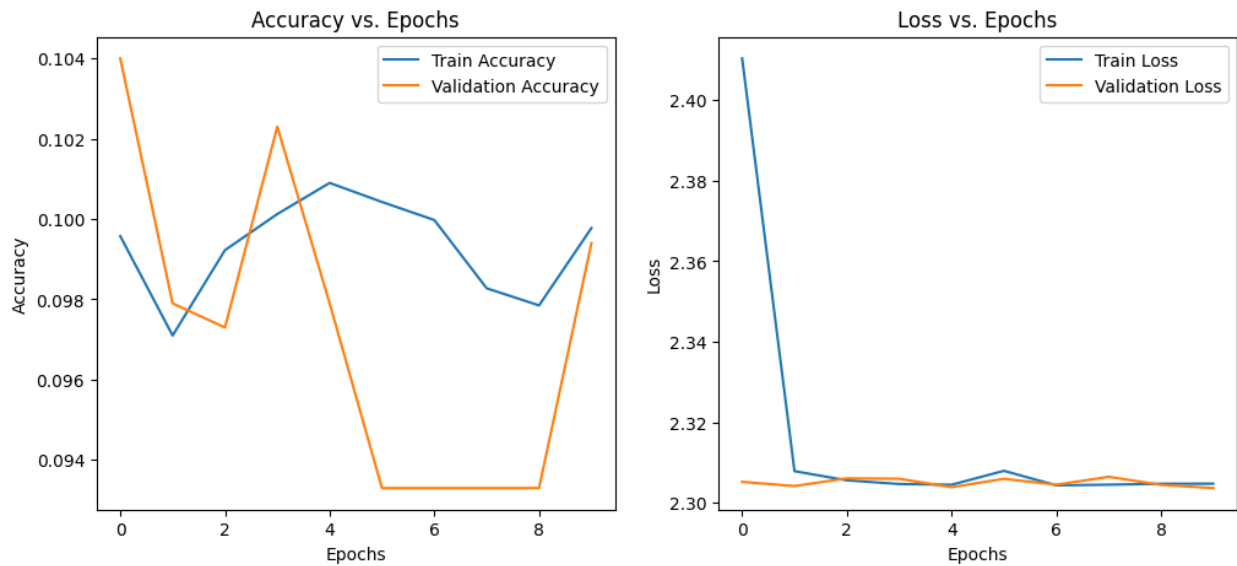
625/625 [=====] - 12s 19ms/step - loss: 2.3048 - accuracy:  
0.0998 - val\_loss: 2.3037 - val\_accuracy: 0.0994

Test Loss: 2.3037

Test Accuracy: 0.0994

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Cell 5:



Cell 6:

Parameter Testing and Tuning Table:

Iteration 1:

Number of units = 256

Activation Function = relu

Dropout Rate = 0.23475500698776788

Learning Rate = 0.02112349787265434

Batch Size = 64

Train Accuracy = 0.09825000166893005

Validation Accuracy = 0.1014999970793724

Iteration 2:

Number of units = 128

Activation Function = relu

Dropout Rate = 0.26359659009791303

Learning Rate = 0.05045215820444954

Batch Size = 32

Train Accuracy = 0.09867499768733978

Validation Accuracy = 0.09790000319480896

Iteration 3:

Number of units = 512

Activation Function = relu

Dropout Rate = 0.2741944108978339

Learning Rate = 0.07760989813802911

Batch Size = 32

Train Accuracy = 0.09929999709129333

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Validation Accuracy = 0.1023000031709671

Iteration 4:

Number of units = 512

Activation Function = relu

Dropout Rate = 0.20027099663996864

Learning Rate = 0.03052845748891734

Batch Size = 32

Train Accuracy = 0.09937500208616257

Validation Accuracy = 0.10400000214576721

Iteration 5:

Number of units = 128

Activation Function = relu

Dropout Rate = 0.286924405287326

Learning Rate = 0.10738358282067174

Batch Size = 64

Train Accuracy = 0.0988750010728836

Validation Accuracy = 0.1023000031709671

Iteration 6:

Number of units = 256

Activation Function = relu

Dropout Rate = 0.4239126967833995

Learning Rate = 0.08878477050754308

Batch Size = 32

Train Accuracy = 0.09847500175237656

Validation Accuracy = 0.09960000216960907

Iteration 7:

Number of units = 256

Activation Function = relu

Dropout Rate = 0.21170816284737956

Learning Rate = 0.034103415882014945

Batch Size = 32

Train Accuracy = 0.10007499903440475

Validation Accuracy = 0.09790000319480896

Iteration 8:

Number of units = 256

Activation Function = relu

Dropout Rate = 0.30840391910100506

Learning Rate = 0.029873140265938975

Batch Size = 32

Train Accuracy = 0.09880000352859497

Validation Accuracy = 0.1023000031709671

Iteration 9:

Number of units = 512

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Activation Function = relu

Dropout Rate = 0.21717490001202955

Learning Rate = 0.02059309476891219

Batch Size = 32

Train Accuracy = 0.10117500275373459

Validation Accuracy = 0.093299999833107

Iteration 10:

Number of units = 512

Activation Function = tanh

Dropout Rate = 0.35409611019240883

Learning Rate = 0.030251603865511317

Batch Size = 32

Train Accuracy = 0.09757500141859055

Validation Accuracy = 0.09730000048875809

Iteration 11:

Number of units = 512

Activation Function = tanh

Dropout Rate = 0.3409689734513316

Learning Rate = 0.03289189401907063

Batch Size = 64

Train Accuracy = 0.10052499920129776

Validation Accuracy = 0.09730000048875809