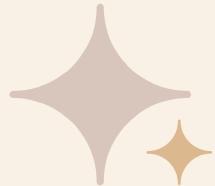


YOGA POSES

AI model

By: Rawan / Samaher





Introduction

Yoga Pose Image is a collection of the images for yoga exercises. The pictures mostly consists of one person doing a pose of yoga. In this project we aim to classify and predict the name of the pose. Our goal is to build deep learning model on this data.



Background



DATASETS

Yoga Pose Image classification
&
Yoga Poses Image classification
&
New dataset for Yoga Pose



SIZE

5499 pictures
&
5 classes



SOURCE

Kaggle
&
Laurence Moroney – The AI Guy

Technologies and Libraries



Numpy

Keras



scikit
learn

Scikit-Learn

Matplotlib



Jupyter

Pickle



Workflow

Which
data to use

I



2

Models

Result

3



4

Conclusion



OI



The names of the poses we choose for our model

Down dog



Goddess



Tree



Mountain

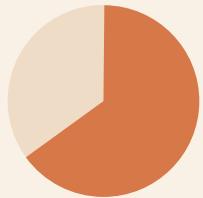


Warrior



Baseline Model

Logistic Regression



80%

Training

Accuracy:

0.742

20%

Validation

Accuracy:

0.749

20%

Testing

Accuracy:

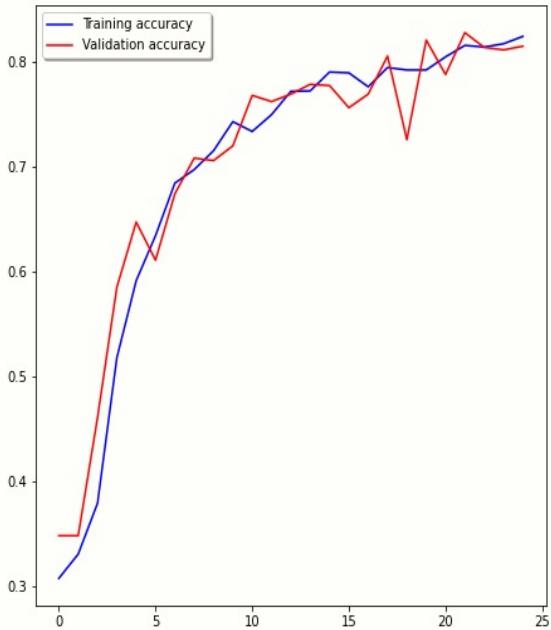
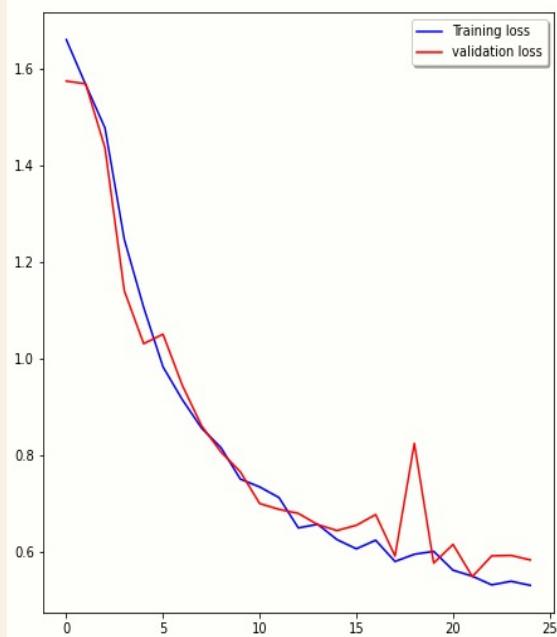
0.774



Models

model (1)	model (2)	model (3)	model (4)
Epochs:100 Layers:6 Batch size:16 Dropout layers: in each layer 0.5 Early stopping: yes Patience:3	Transfer learning: We used mobilenet	After the image generator Epochs: 15 Layers: 6 Batch size: 20	After Image augmentation Epochs: 40-100 Layers: 6 Batch size: 20
Accuracy :84 Val accuracy: 78	Accuracy :72%	Accuracy :99% Val accuracy: 99%	Accuracy :99% Val accuracy: 99%

Model I

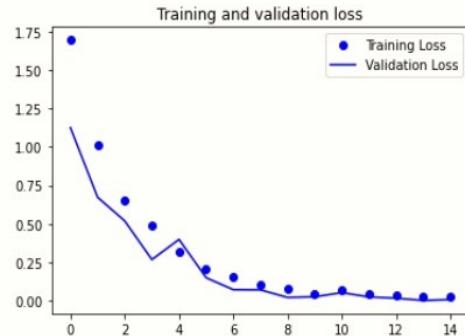
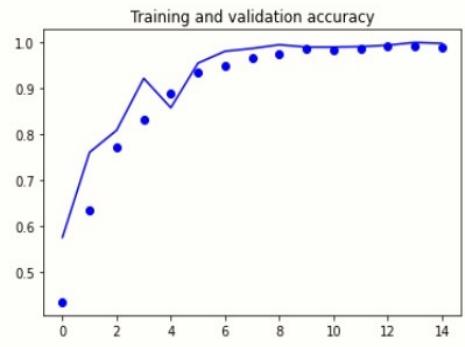


◆ Training
Accuracy: 0.84

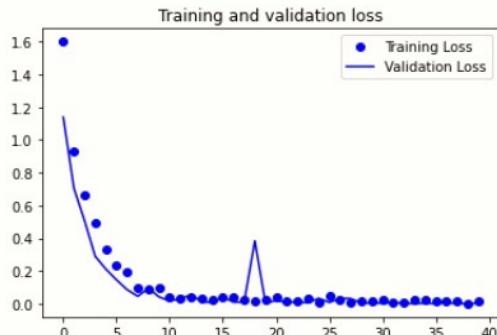
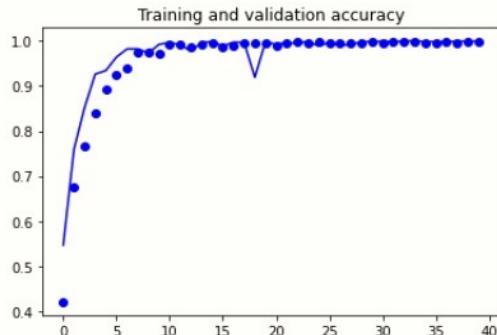
◆ Validation
Accuracy: 0.78

Models

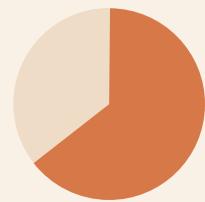
CNN (2)



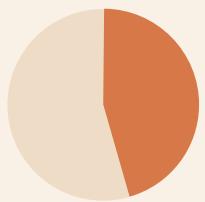
CNN (3)



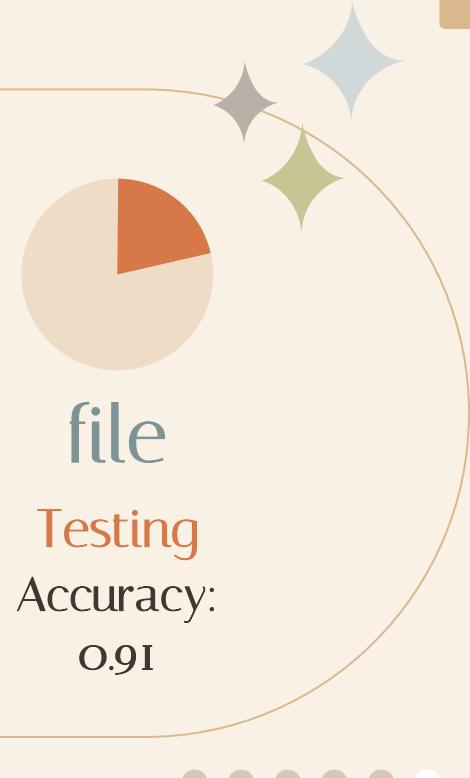
Result



60%
Training
Accuracy:
0.99



40%
Validation
Accuracy:
0.99



file
Testing
Accuracy:
0.91



Conclusion

In this model we were able to achieve our goal in getting a high accuracy.

There are hundreds more poses of yoga, but we choose those five for the goal of simplicity.

For future work we hope that we can produce an application that can correctly classify the movement of the yoga practitioner.



Thanks...

Do you have any questions?

