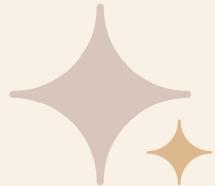


# YOGA POSES AI model

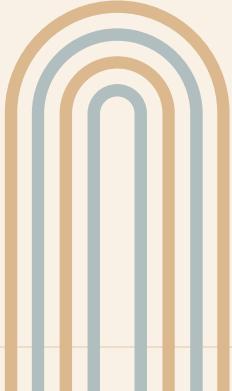
By: Rawan / Samaher





# 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

1



2

Models

Result

3



4

Conclusion

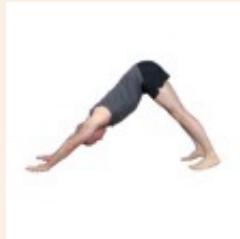


# OI



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:

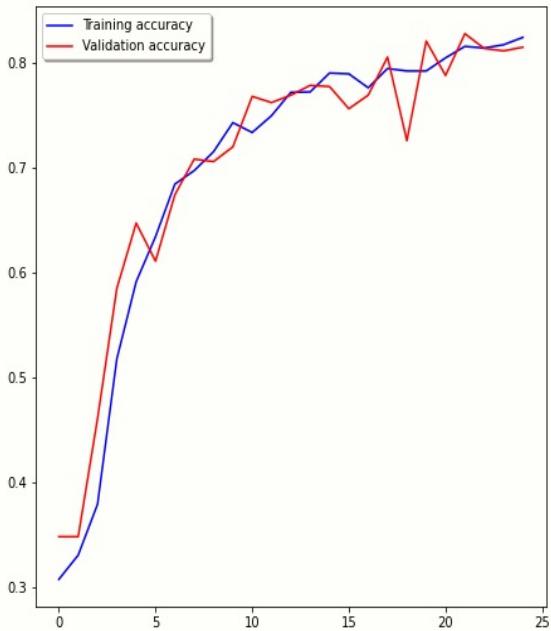
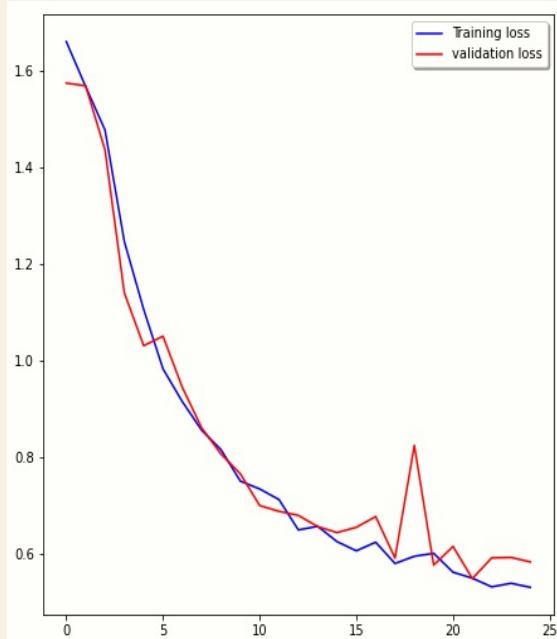
0.774



# Models

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

# Model I

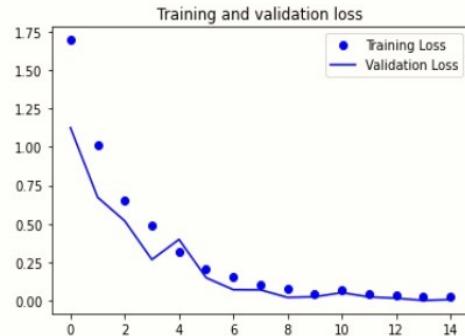
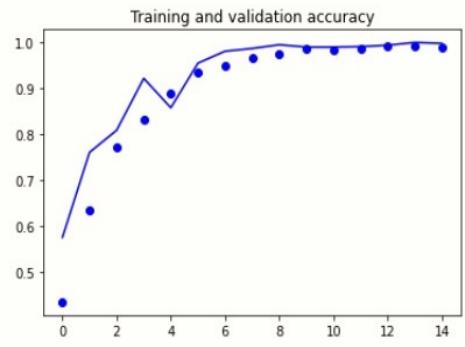


◆ Training  
Accuracy: 0.84

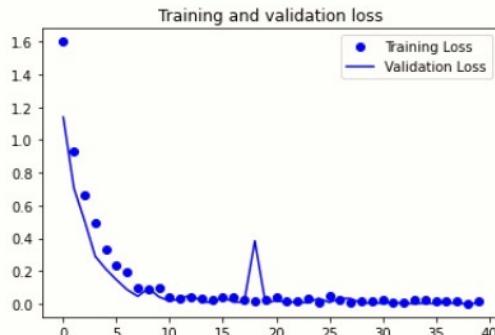
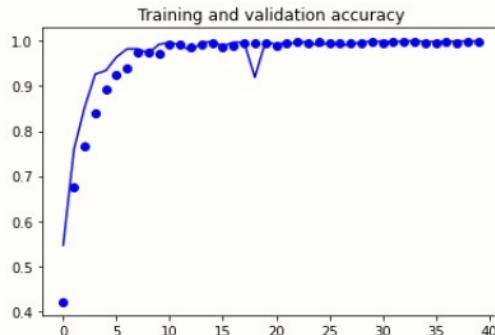
◆ Validation  
Accuracy: 0.78

# Models

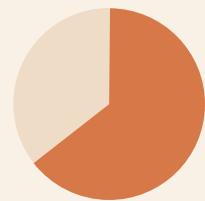
CNN (3)



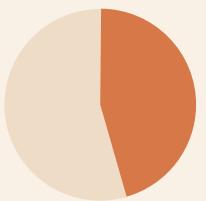
CNN (4)



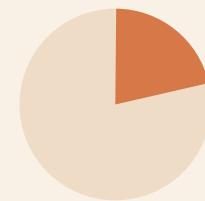
# Result



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?

