



LIVENESS DETECTION USING DEEP LEARNING

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BY :

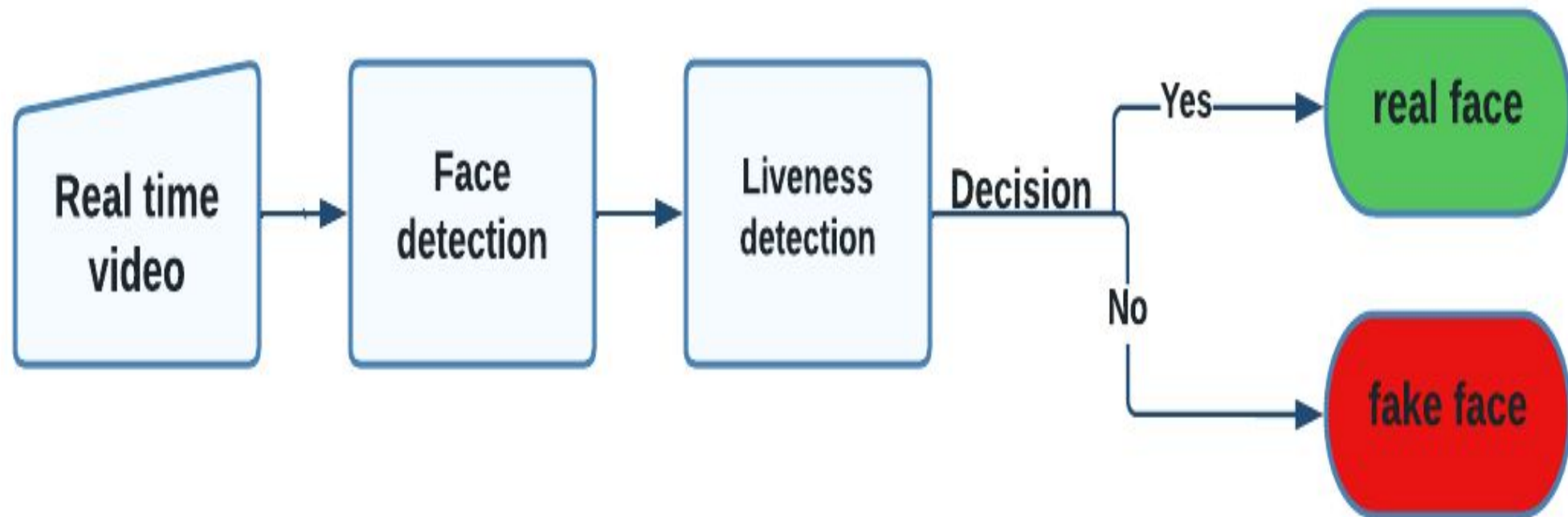
- Shahed Al-Rweidan
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- Mohammad Kayed
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CONTENT

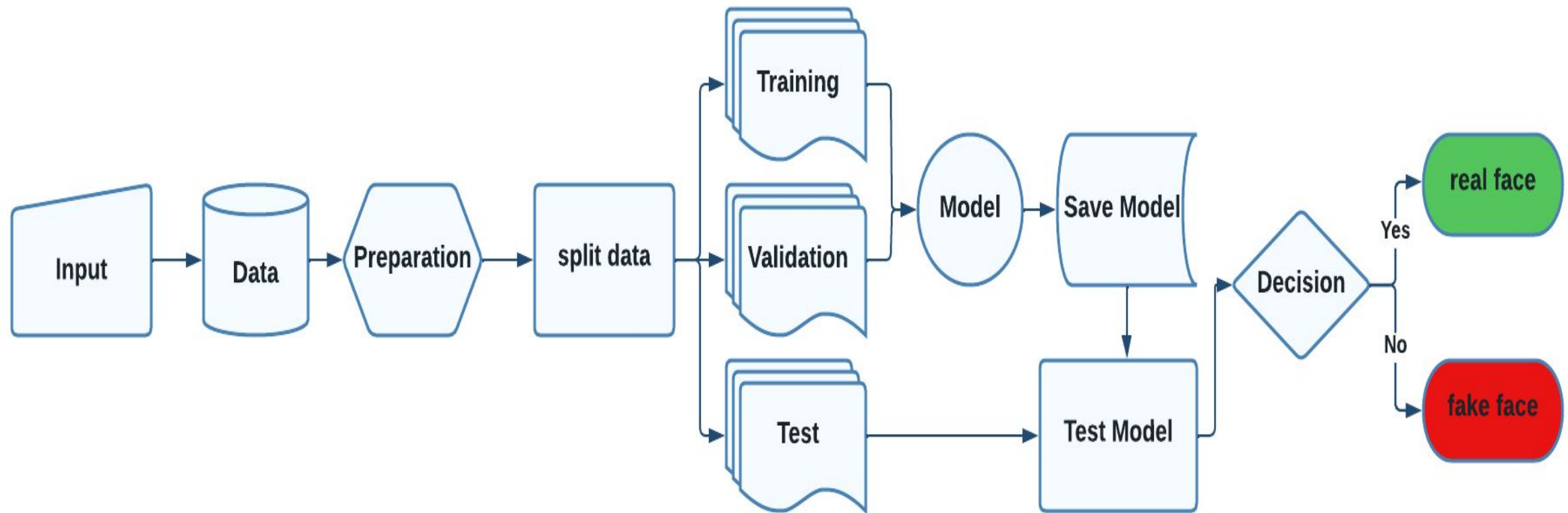
- Introduction
- Collecting Data and Preparing
- Preparation and Split Data
- Convolutional Neural Network
- Test models
- Conclusions

1. INTRODUCTION

LIVENESS DETECTION



DESIGN SYSTEM

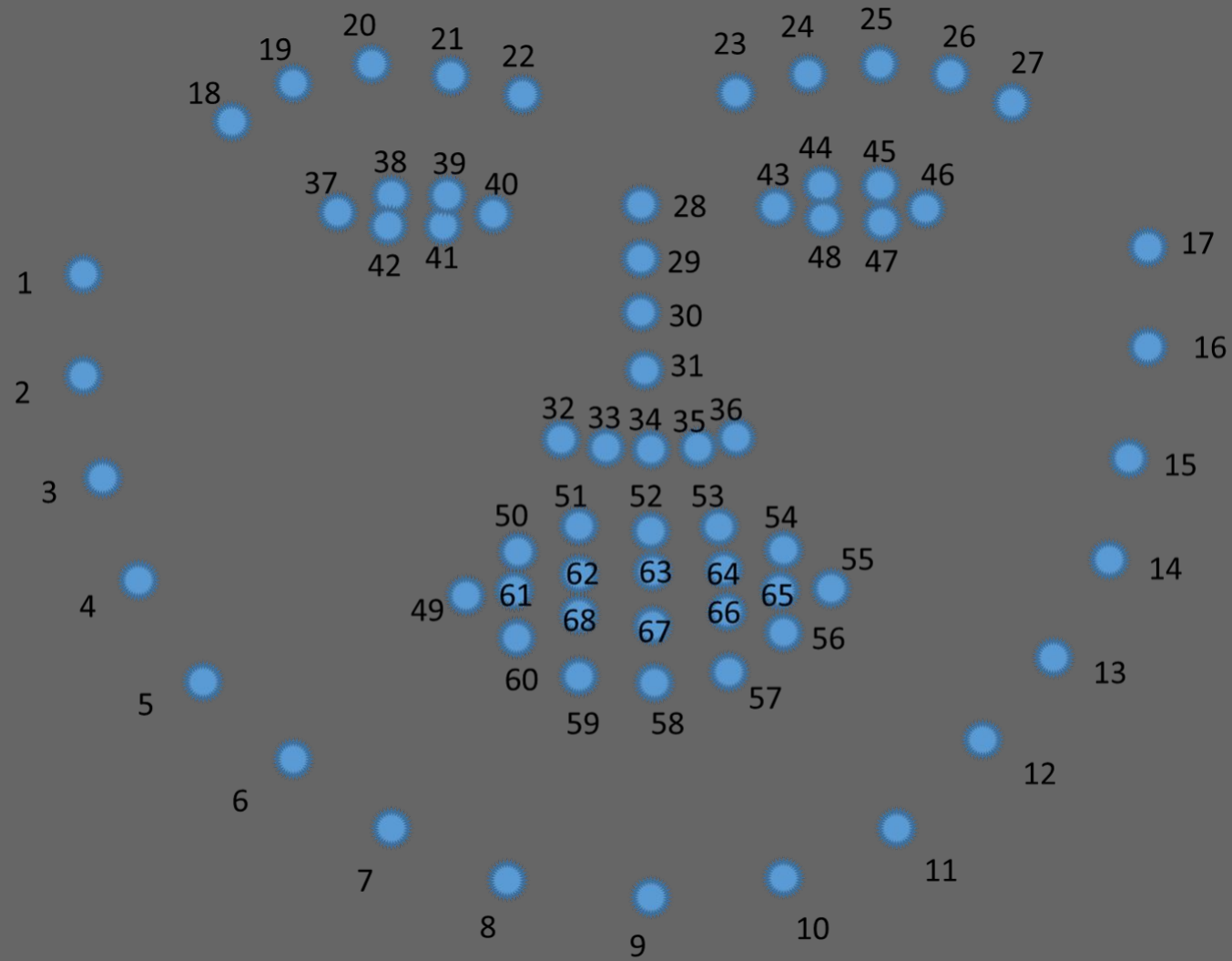


COLLECT DATA

Type	Fake	Real
Number	10	10

Table 1

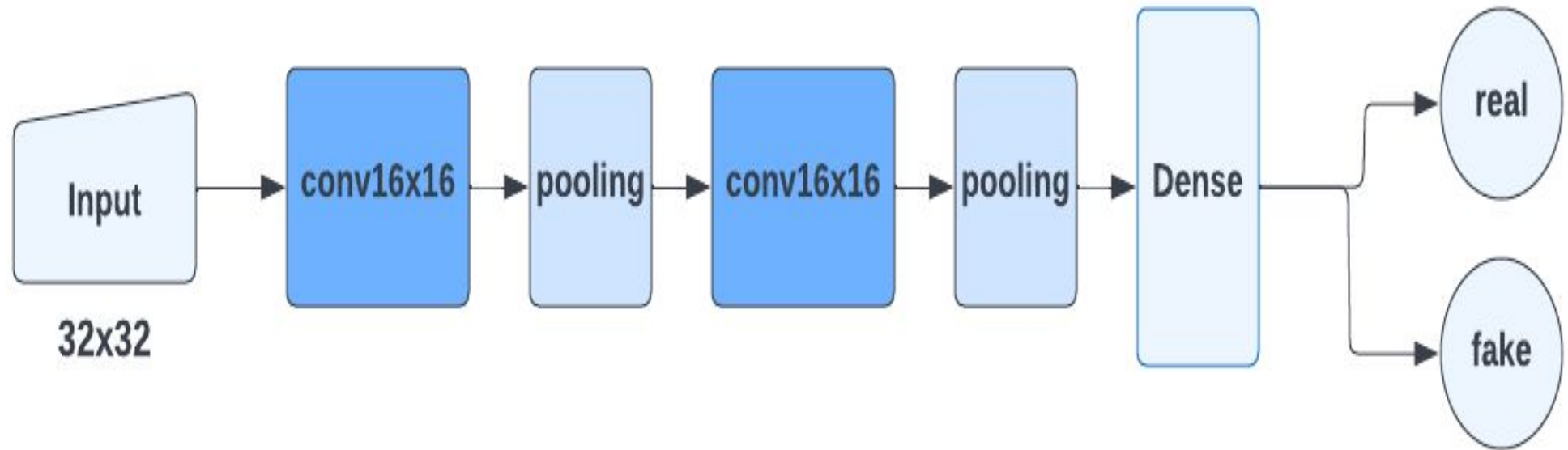
FACE LANDMARK



PREPARATION AND SPLIT DATA

Type	Train set	Validation set	Test set
Real	1842	919	782
Fake	1899	939	783
Total	3741	1858	1565

CONVOLUTIONAL NEURAL NETWORK



Input



Conv 1-1
Conv 1-2
Pooing

Conv 2-1
Conv 2-2
Pooing

Conv 3-1
Conv 3-2
Conv 3-3
Pooing

Conv 4-1
Conv 4-2
Conv 4-3
Pooing

Conv 5-1
Conv 5-2
Conv 5-3
Pooing

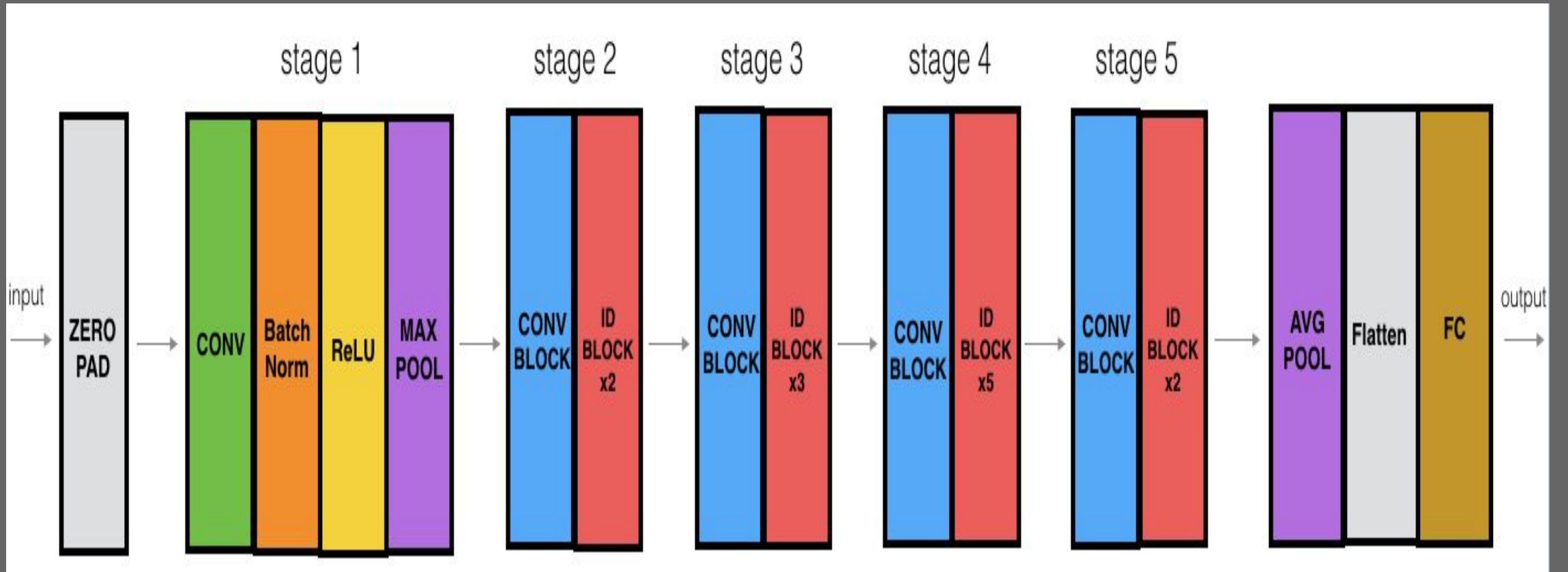
Dense
Dense
Dense



Output

VGG-16

RESNET50



TEST MODELS

CNN TEST

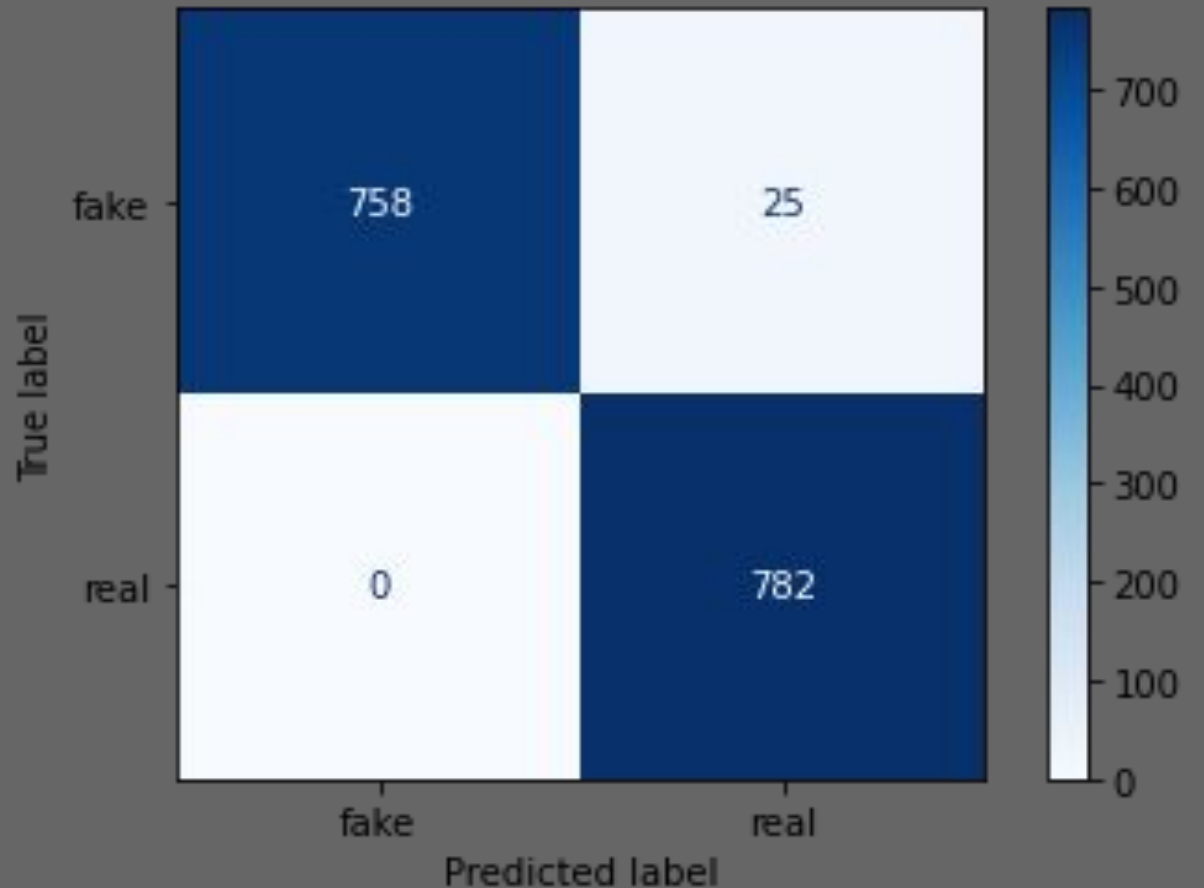
Epochs	10	20	30	40	50
Test accuracy	61.3	51.2	81.4	63.4	83.90

VGG 16

Epochs	10	20	30	40	50
Test accuracy	57.2	50.5	50.8	52.4	87.16

RESNET50

we attained a test accuracy of *98.40* percent after 20 epochs of training .



5. CONCLUSIONS

CONCLUSION

The obtained results show that ResNet50 performs better than other models in our dataset. However, there is a 2-5 percent chance of error in real life. In the future, we hope to improve performance and accuracy in different deep CNN architectures.

END