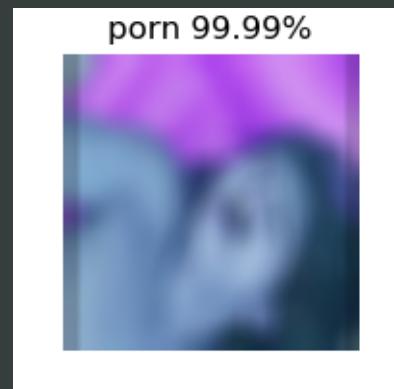
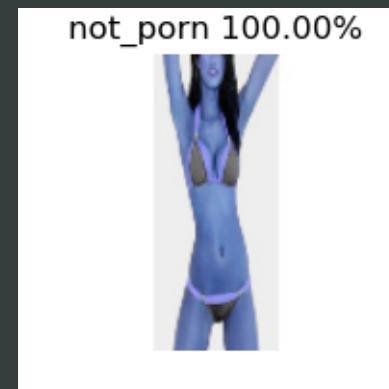


DEEP LEARNING

PORN DETECTION



vs



PORN DATA COLLECTION

- PORN DATASET Kaggle:
<https://www.kaggle.com/ljlr34449/porn-data/data>
- *Python Script* to download thumbnail images
- 192.462 images
- 320 x 180 resolution

BIKINI DATASET COLLECTION

- Python Script using Google Image Search
<https://github.com/hardikvasa/google-images-download>
- Each keyword returns 600-800 photos
- 27.426 total images were collected using 56 keywords
 - *bathing bikini,*
 - *bathing suits,*
 - *beachbikini,*
 - *beachbikini hot,*
 - *beach bra,*
 - *beautiful bikini,*
 - *bikini,*
 - *bikinibeach,*
 - *bikiniexotic,*
 - *bikinihot,*
 - *bikinis,*
 - ..."

IMAGE PROCESS

- Duplicates removal (generating image hash and not based on the file names)
- Corrupted images removal
- All images were converted to the same resolution as the porn images (320 x 180) by adding a white frame and keeping the image proportions

TRAIN DETAILS

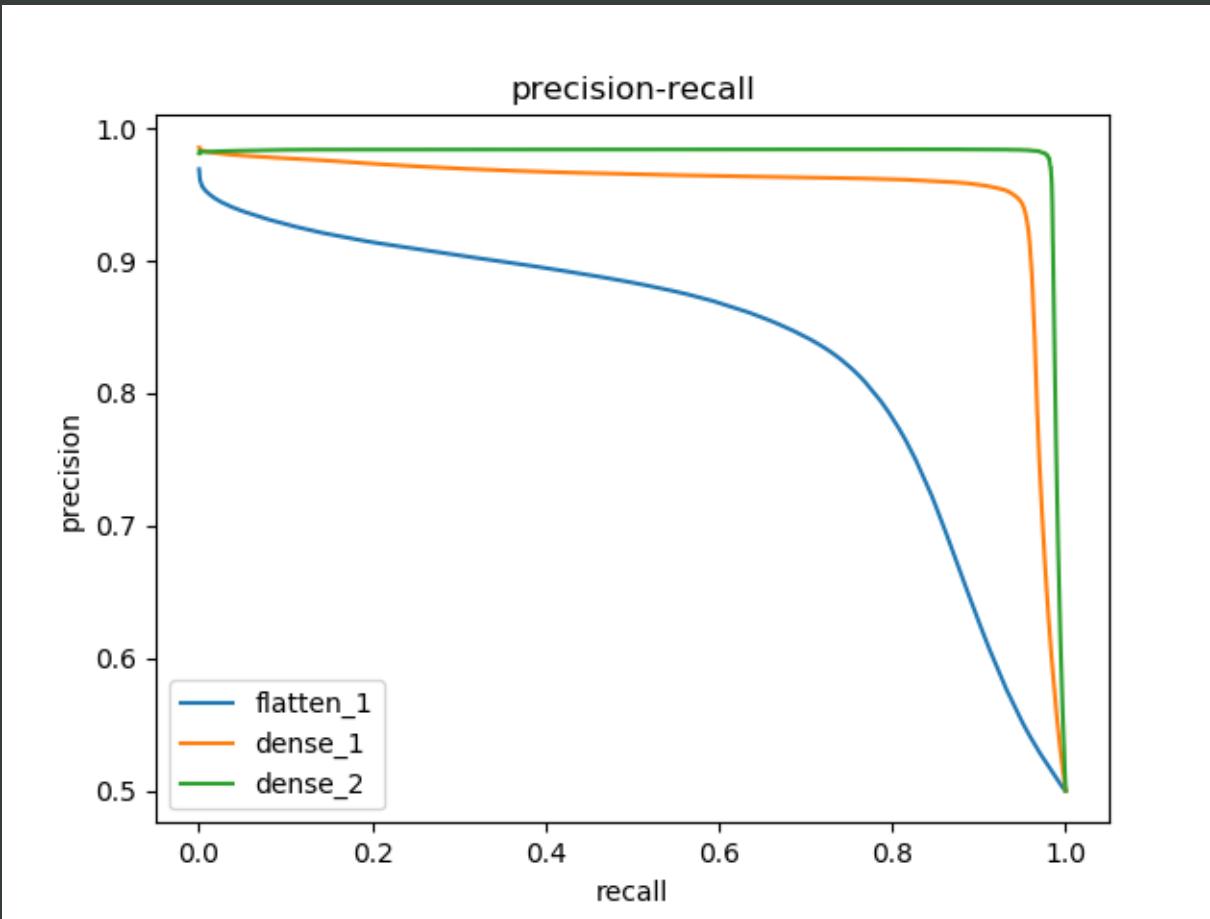
- Almost impossible 222,000 photos
- 15,533 photos were used in a resolution of 128 x 128
- Model h5 was used for data and model:
features.h5
labels.h5
model.h5
- 20 epochs
- 3 color channels (RGB)

SIMPLE TRAIN 12 LAYERS MODEL

Layer (type)	Output Shape	Param #
<hr/>		
conv2d_1 (Conv2D)	(None, 126, 126, 32)	896
conv2d_2 (Conv2D)	(None, 124, 124, 32)	9248
max_pooling2d_1 (MaxPooling2D)	(None, 62, 62, 32)	0
dropout_1 (Dropout)	(None, 62, 62, 32)	0
conv2d_3 (Conv2D)	(None, 60, 60, 64)	18496
conv2d_4 (Conv2D)	(None, 58, 58, 64)	36928
max_pooling2d_2 (MaxPooling2D)	(None, 29, 29, 64)	0
dropout_2 (Dropout)	(None, 29, 29, 64)	0
flatten_1 (Flatten)	(None, 53824)	0
dense_1 (Dense)	(None, 256)	13779200
dropout_3 (Dropout)	(None, 256)	0
dense_2 (Dense)	(None, 2)	514
<hr/>		
Total params: 13,845,282		
Trainable params: 13,845,282		
Non-trainable params: 0		

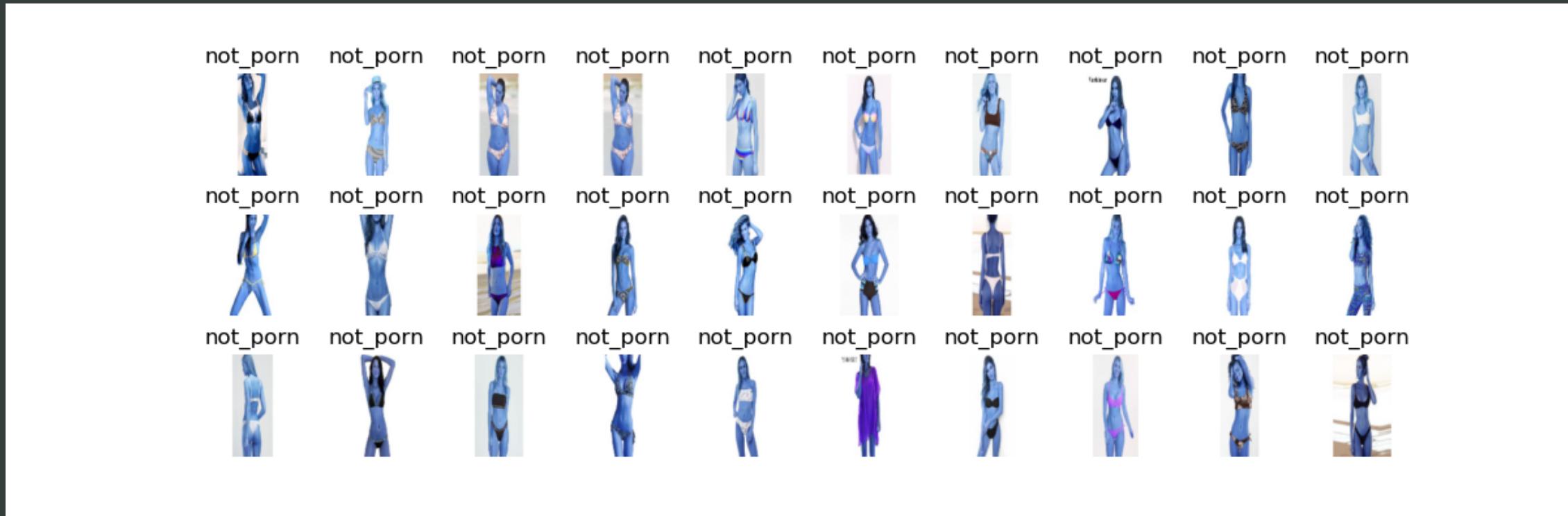
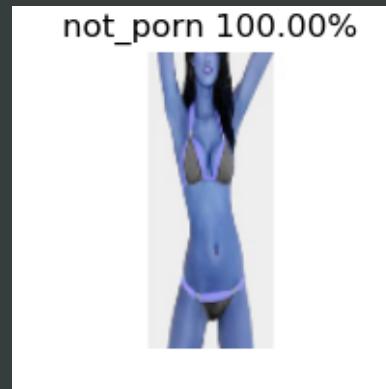
Test accuracy = 0.984

METRICS ON LAST 3 LAYERS

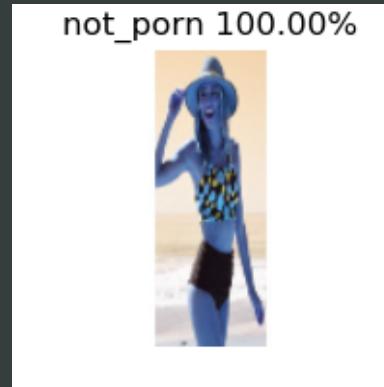


TEST RESULTS – NOT PORN

- Trained Nearest Neighbours
with X_train for 30 neighbors

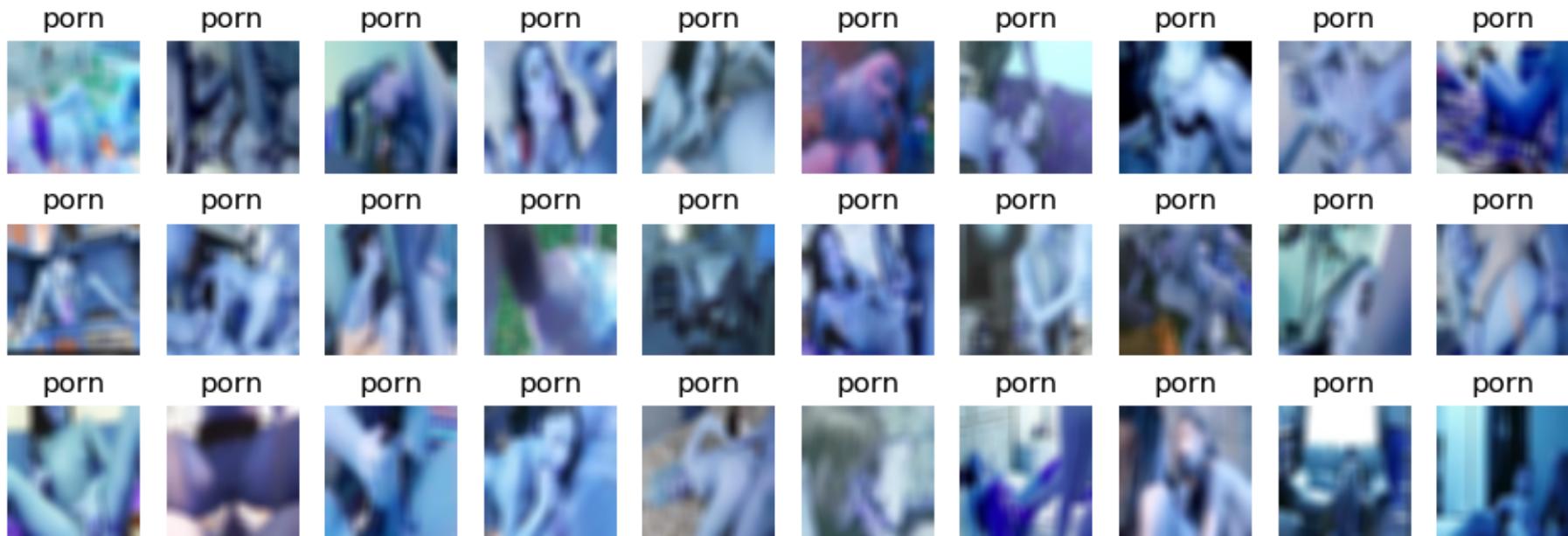
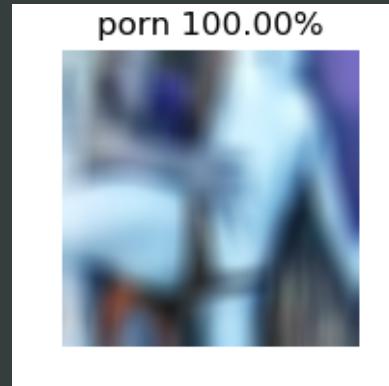


TEST RESULTS – NOT PORN



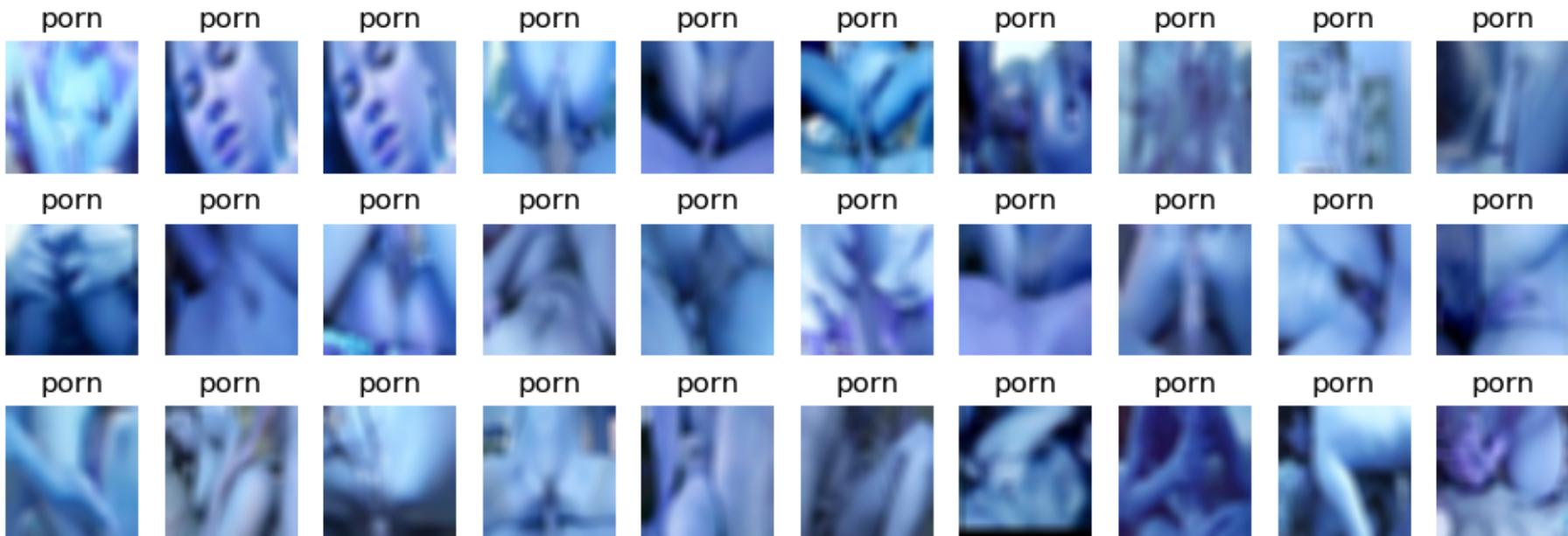
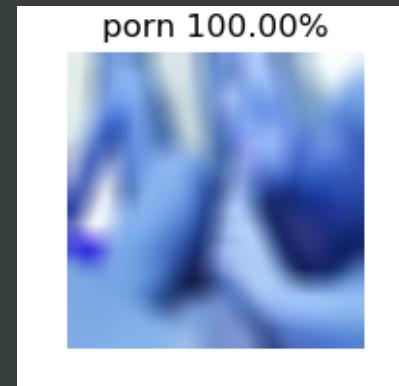
TEST RESULTS – PORN

WRONG ASSUMPTIONS: 0



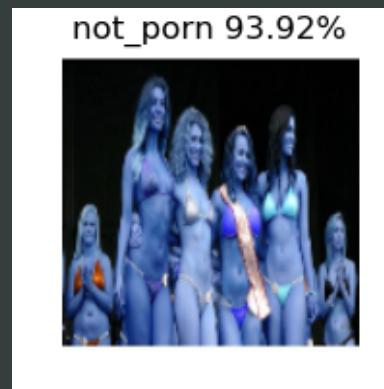
TEST RESULTS – PORN

WRONG ASSUMPTIONS: 0



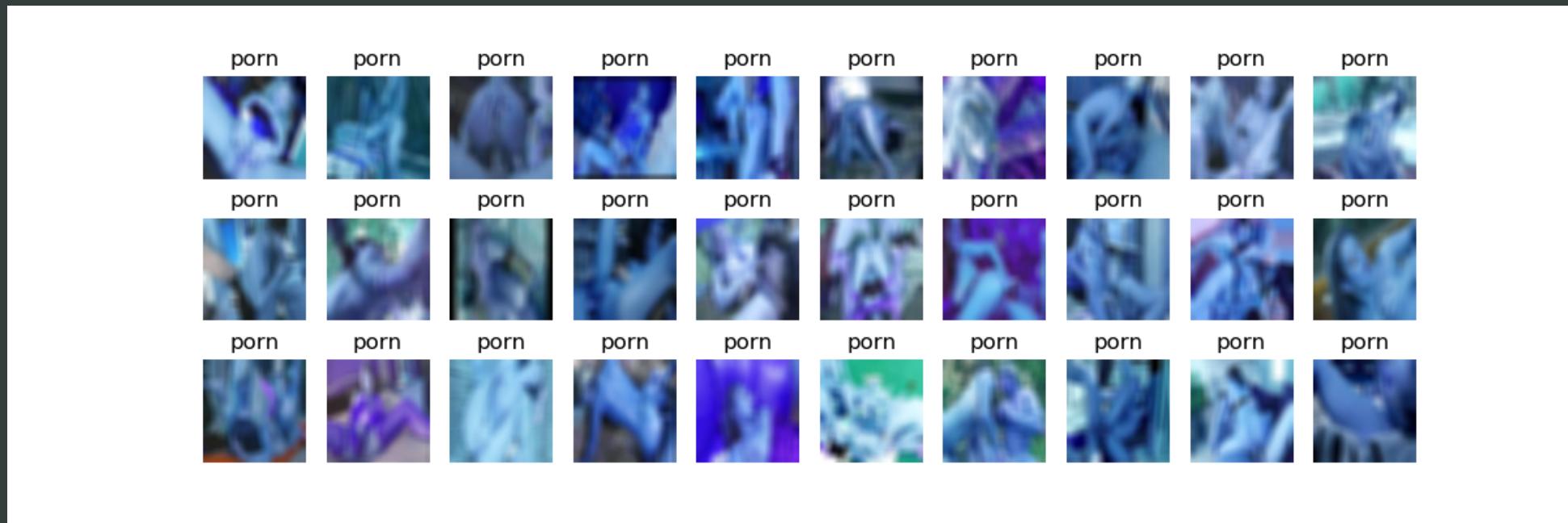
TEST EXAMPLES - NOT PORN

WRONG ASSUMPTIONS: 9



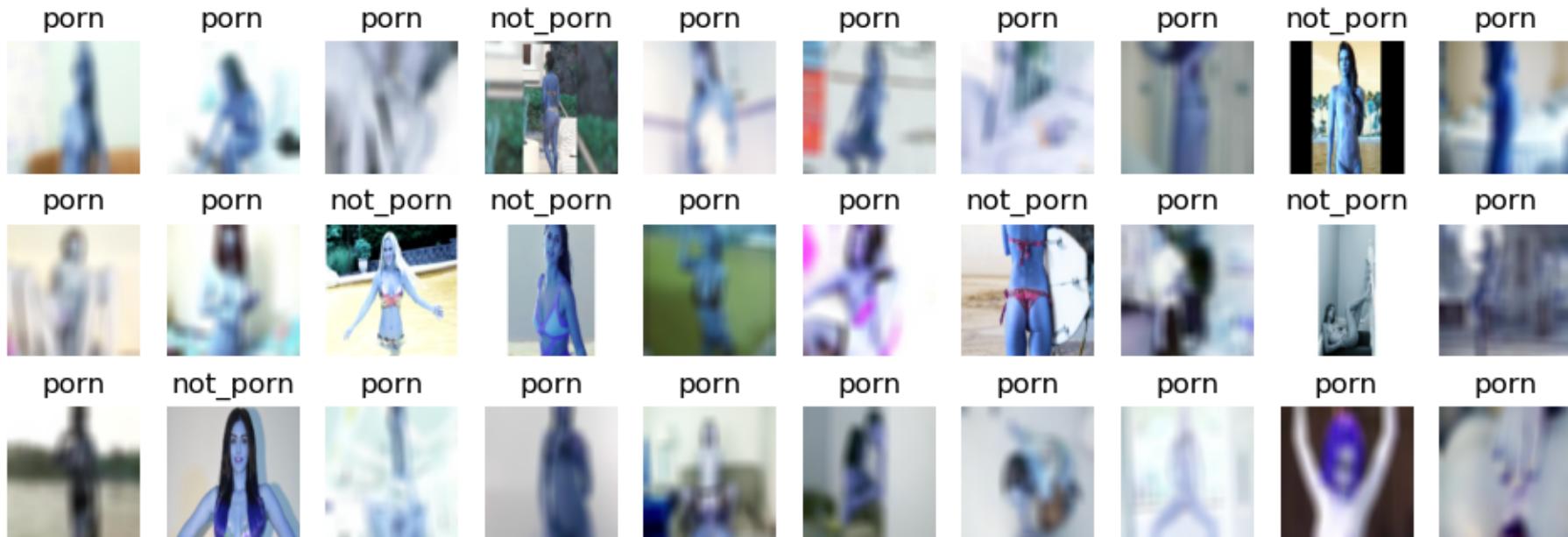
SALT N PEPPER NOISE 1

WRONG ASSUMPTIONS: 0



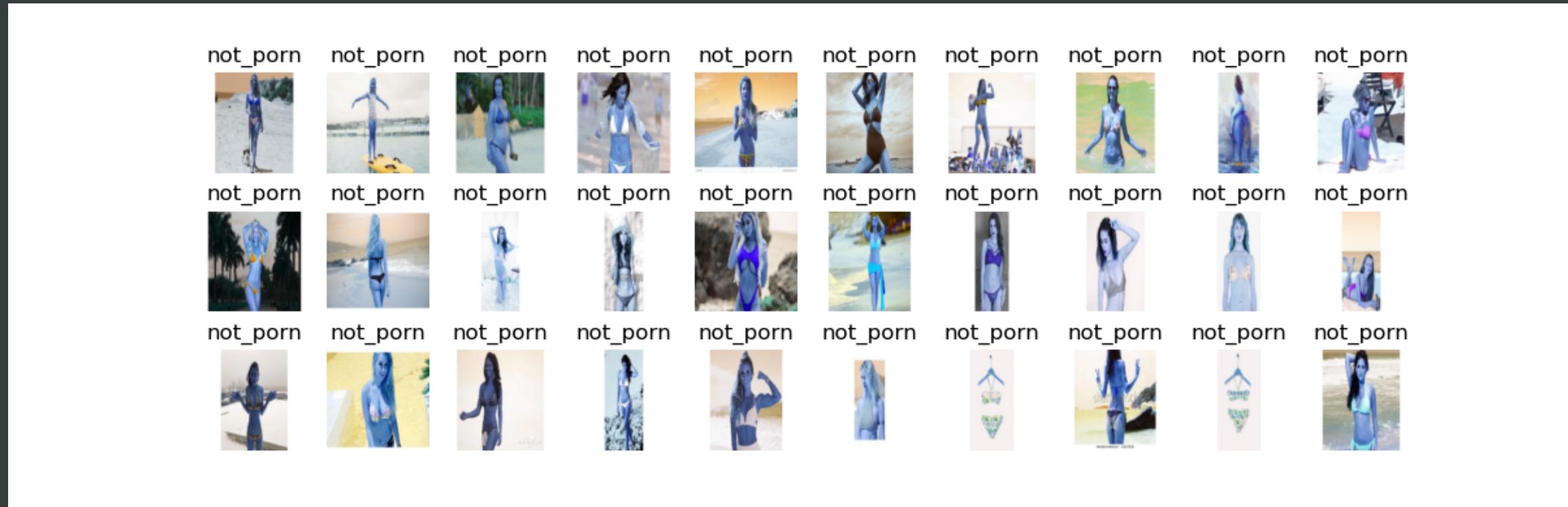
SALT N PEPPER NOISE 2

WRONG ASSUMPTIONS: 23



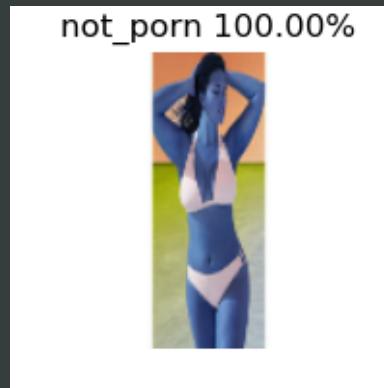
SALT N PEPPER NOISE 3

WRONG ASSUMPTIONS: 0



SAME IMAGE - TEST WITHOUT NOISE

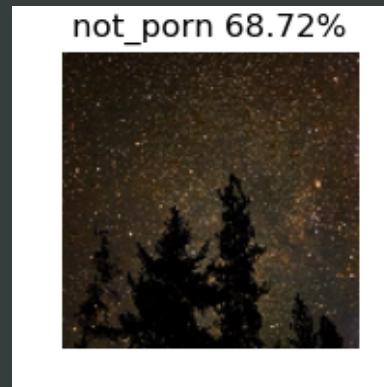
WRONG ASSUMPTIONS: 0





RANDOM IMAGE TEST

WRONG ASSUMPTIONS: 19



not_porn



porn



porn



porn



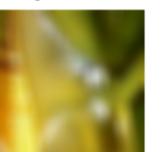
porn



porn



porn



porn



not_porn



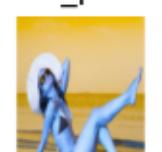
not_porn



not_porn



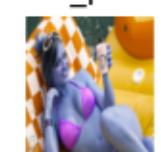
not_porn



porn



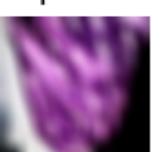
not_porn



not_porn



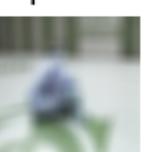
porn



porn



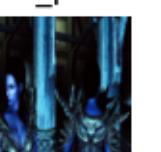
porn



porn



not_porn



porn



not_porn



porn



porn



porn



not_porn



porn



porn



not_porn



porn



END

THANK YOU