



جامعة الإمام عبد الرحمن بن فيصل

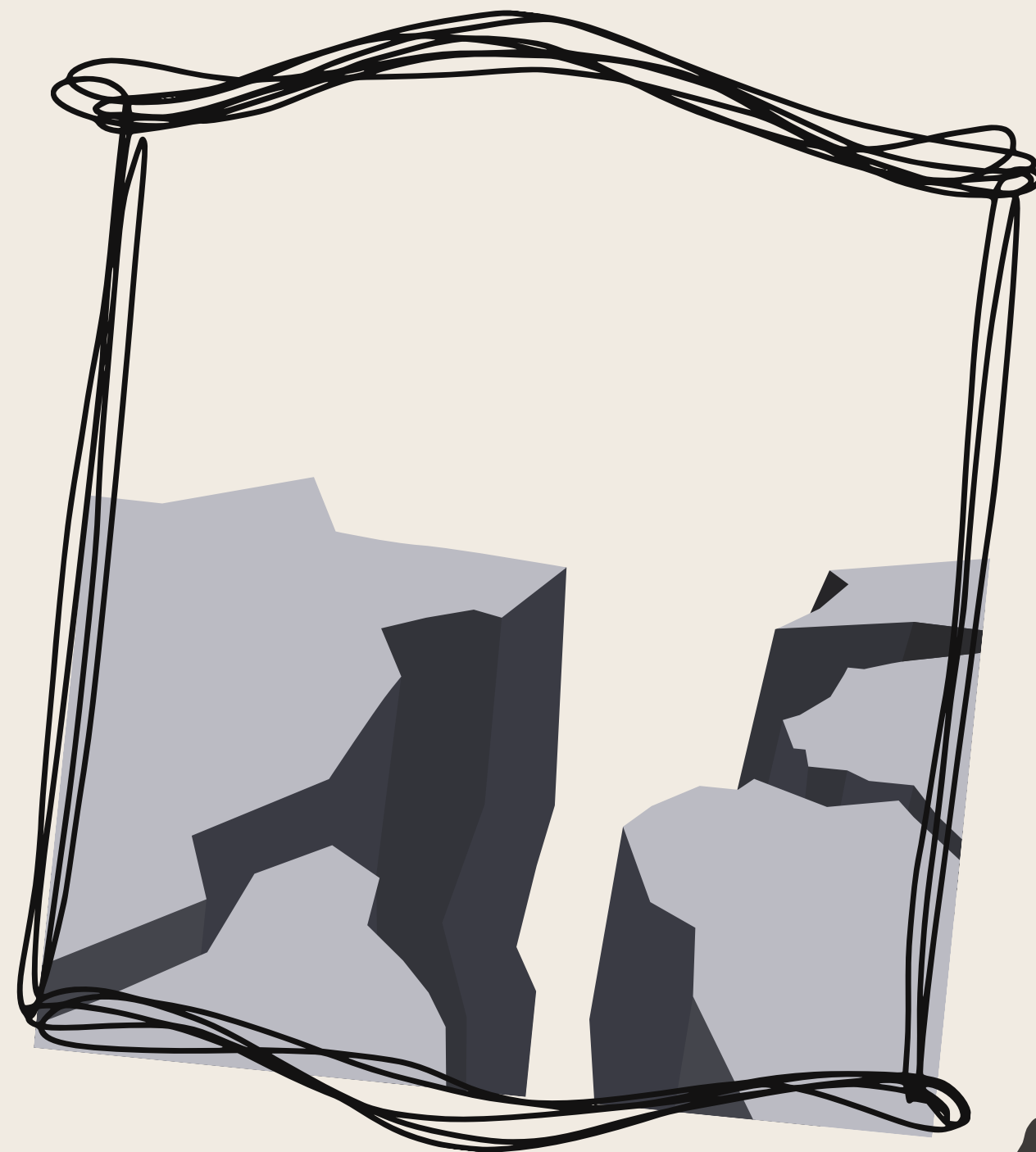
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ROAD CRACK DETECTION

Image processing



AGENDA

- 1. Introduction
- 2. Dataset
- 3. Image Processing Techniques

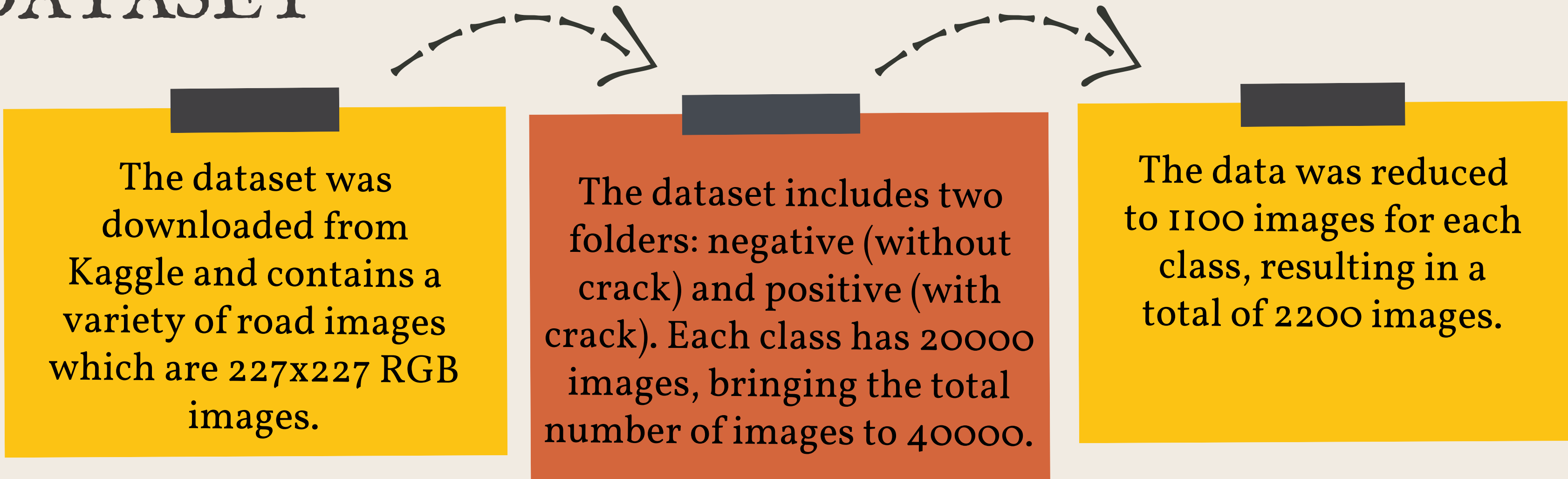
- 4. Code
- 5. Results



WHY ROAD CRACK DETECTION?



DATASET

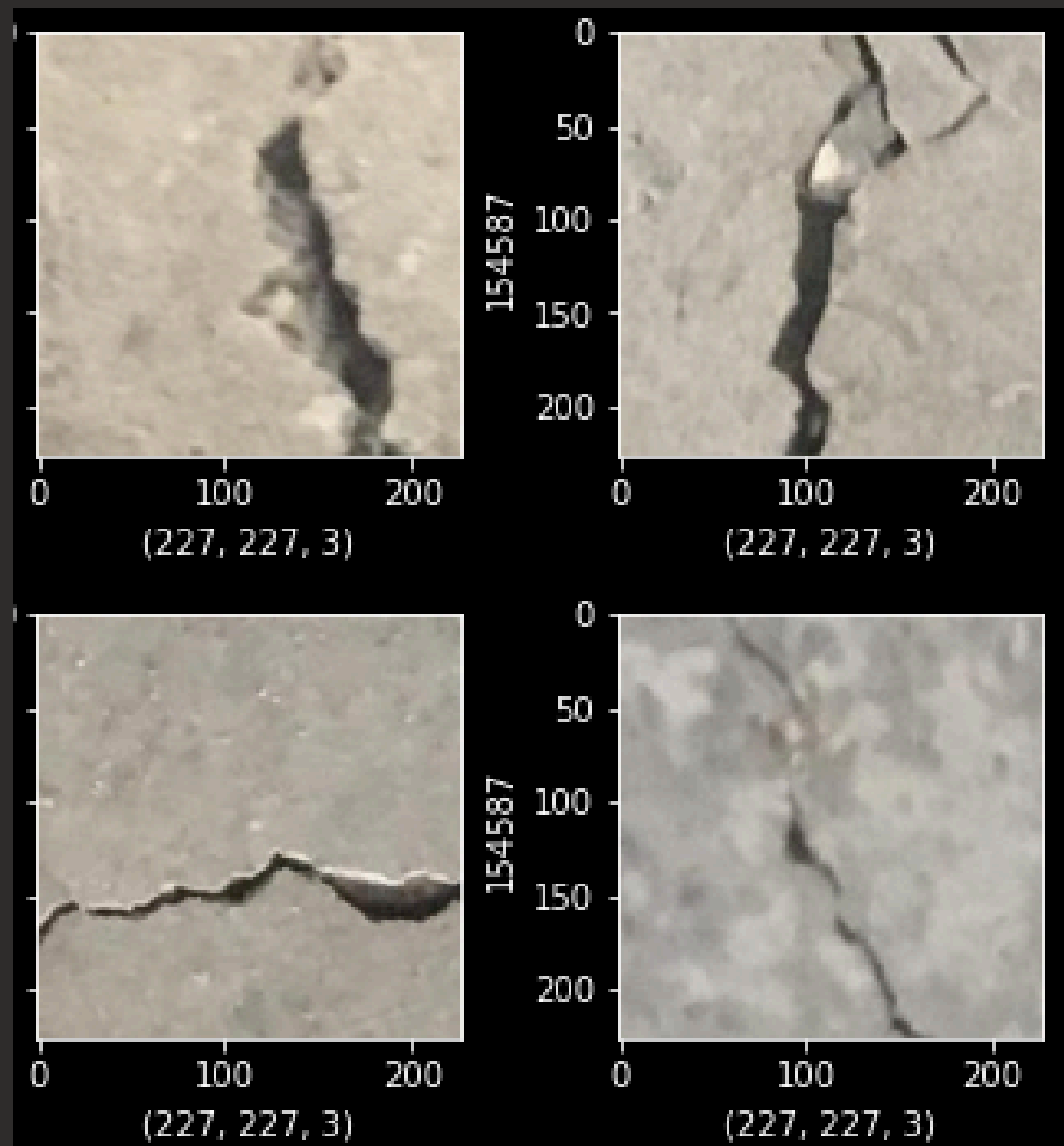


The dataset was downloaded from Kaggle and contains a variety of road images which are 227x227 RGB images.

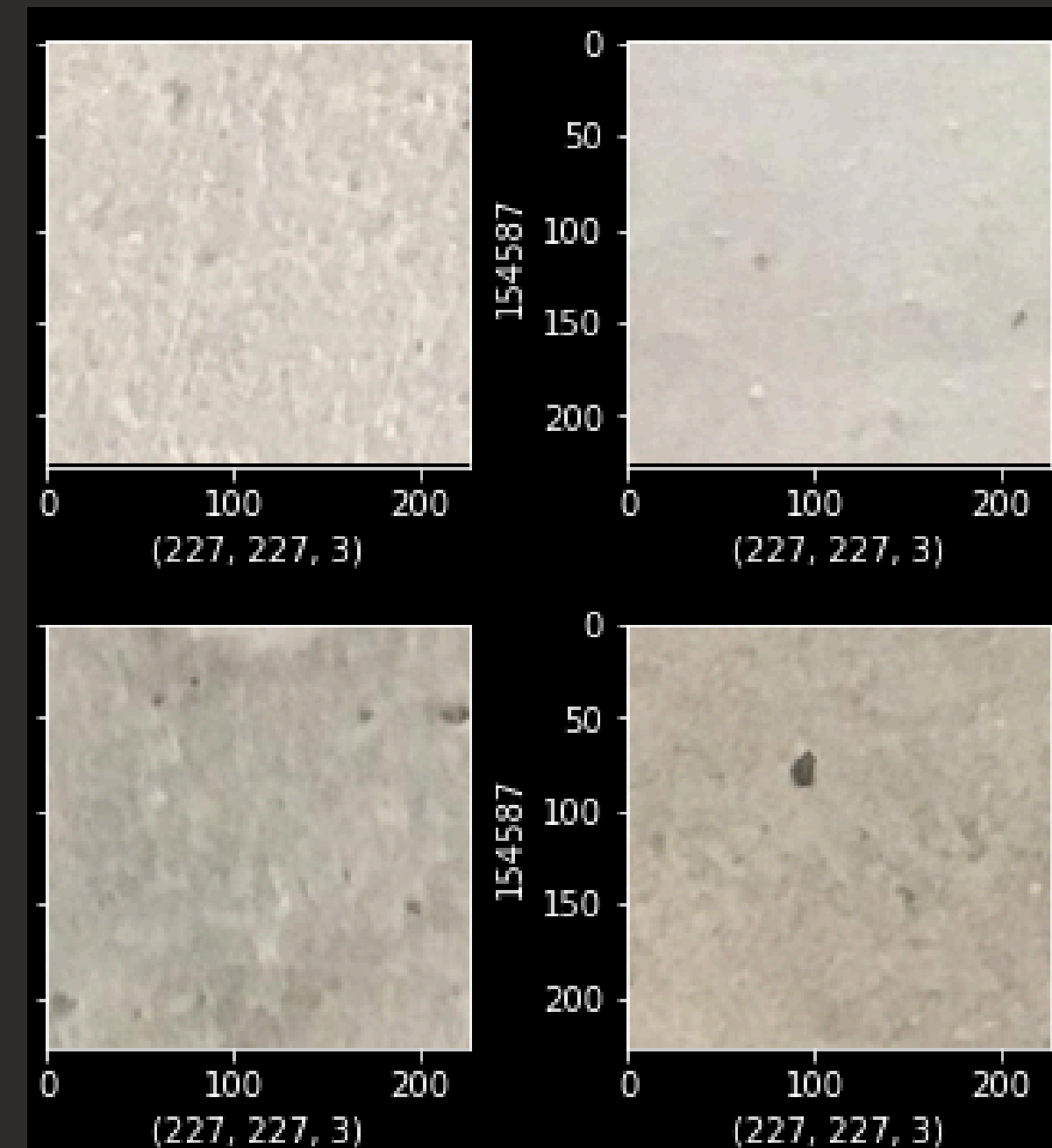
The dataset includes two folders: negative (without crack) and positive (with crack). Each class has 20000 images, bringing the total number of images to 40000.

The data was reduced to 1100 images for each class, resulting in a total of 2200 images.

ORIGINAL IMAGES



POSITIVE



NEGATIVE

IMAGE PROCESSING TECHNIQUES

3.

GRAYSCALE

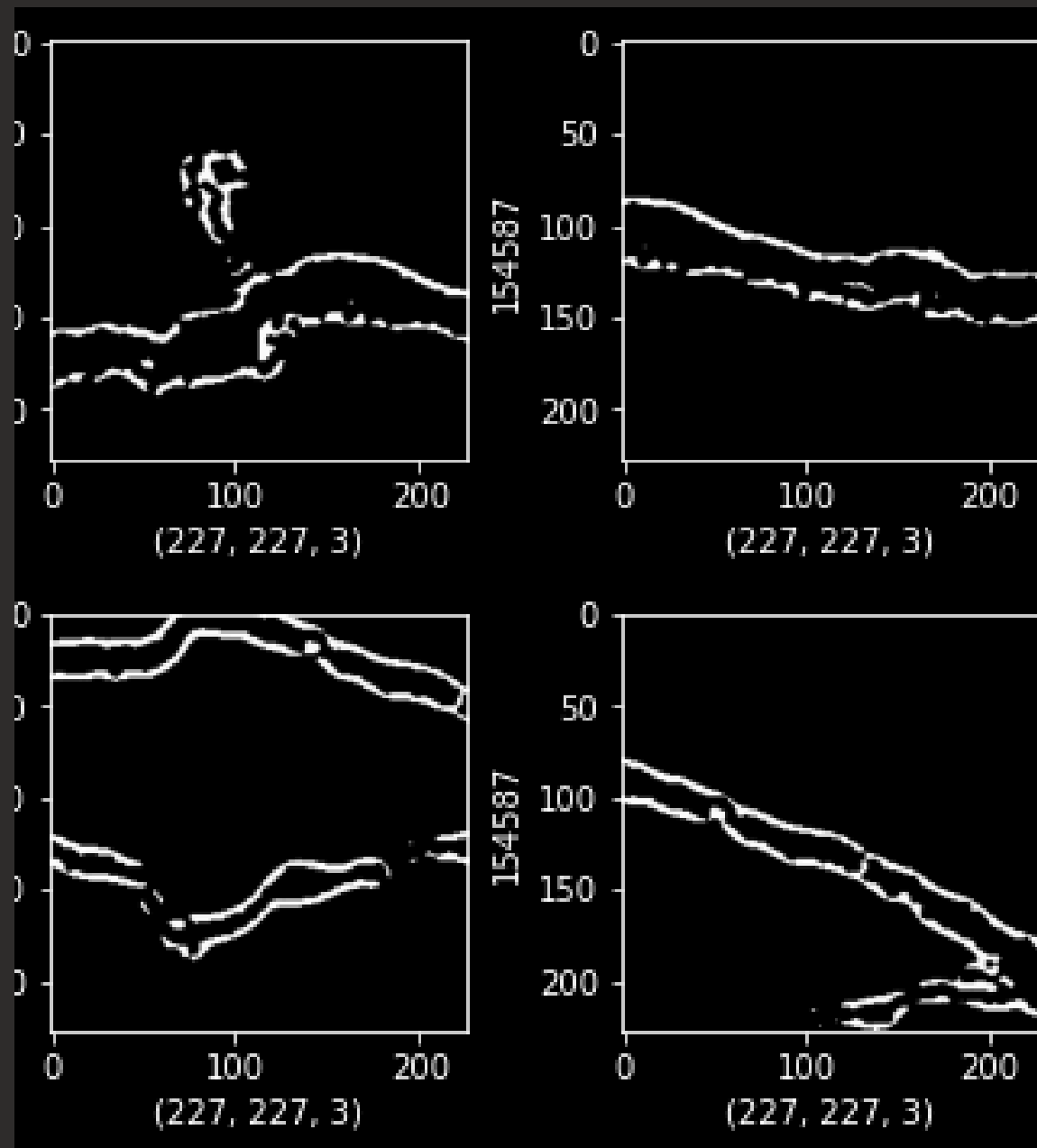


GAUSSIAN
BLURRING

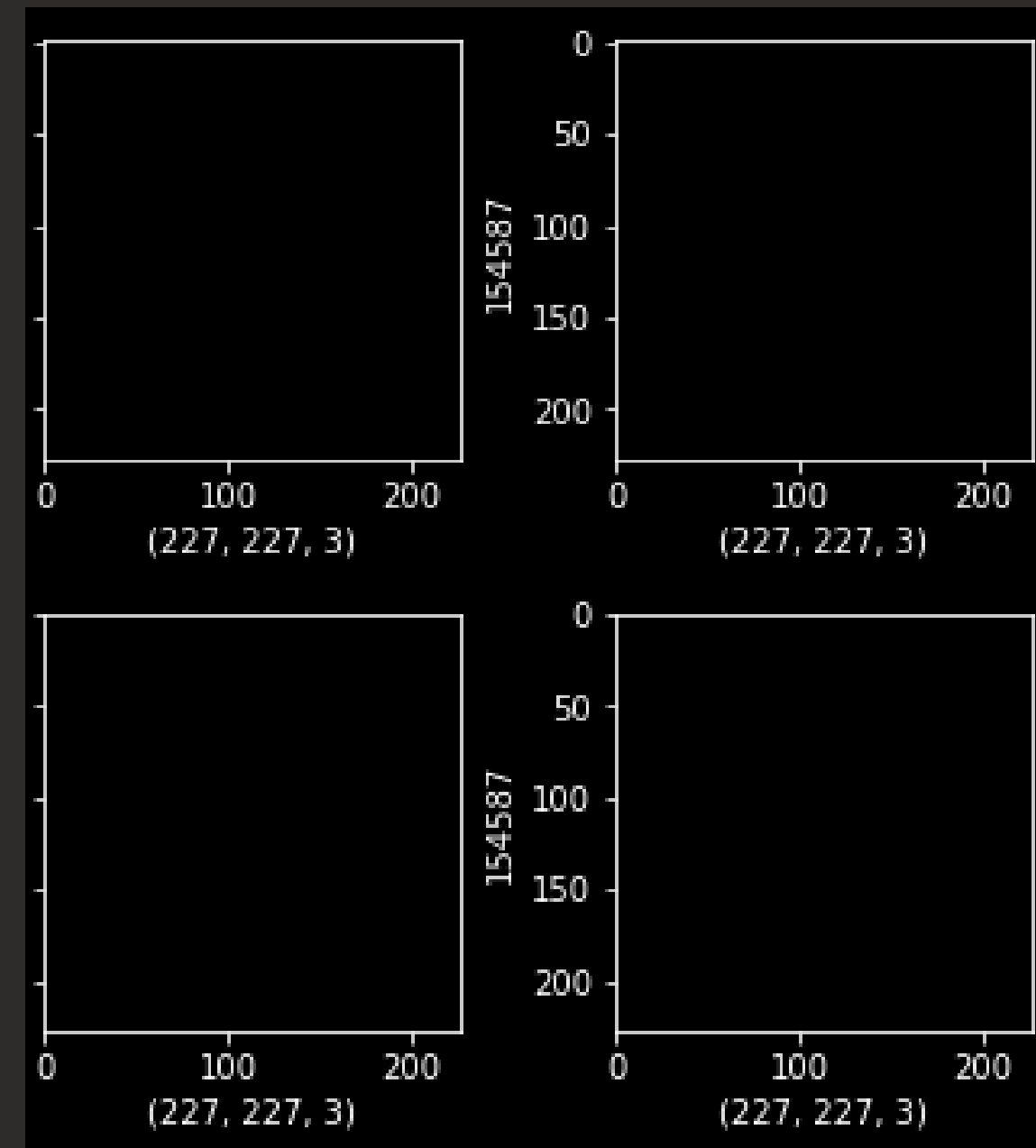


THRESHOLDING

IMAGES AFTER PROCESSING



POSITIVE

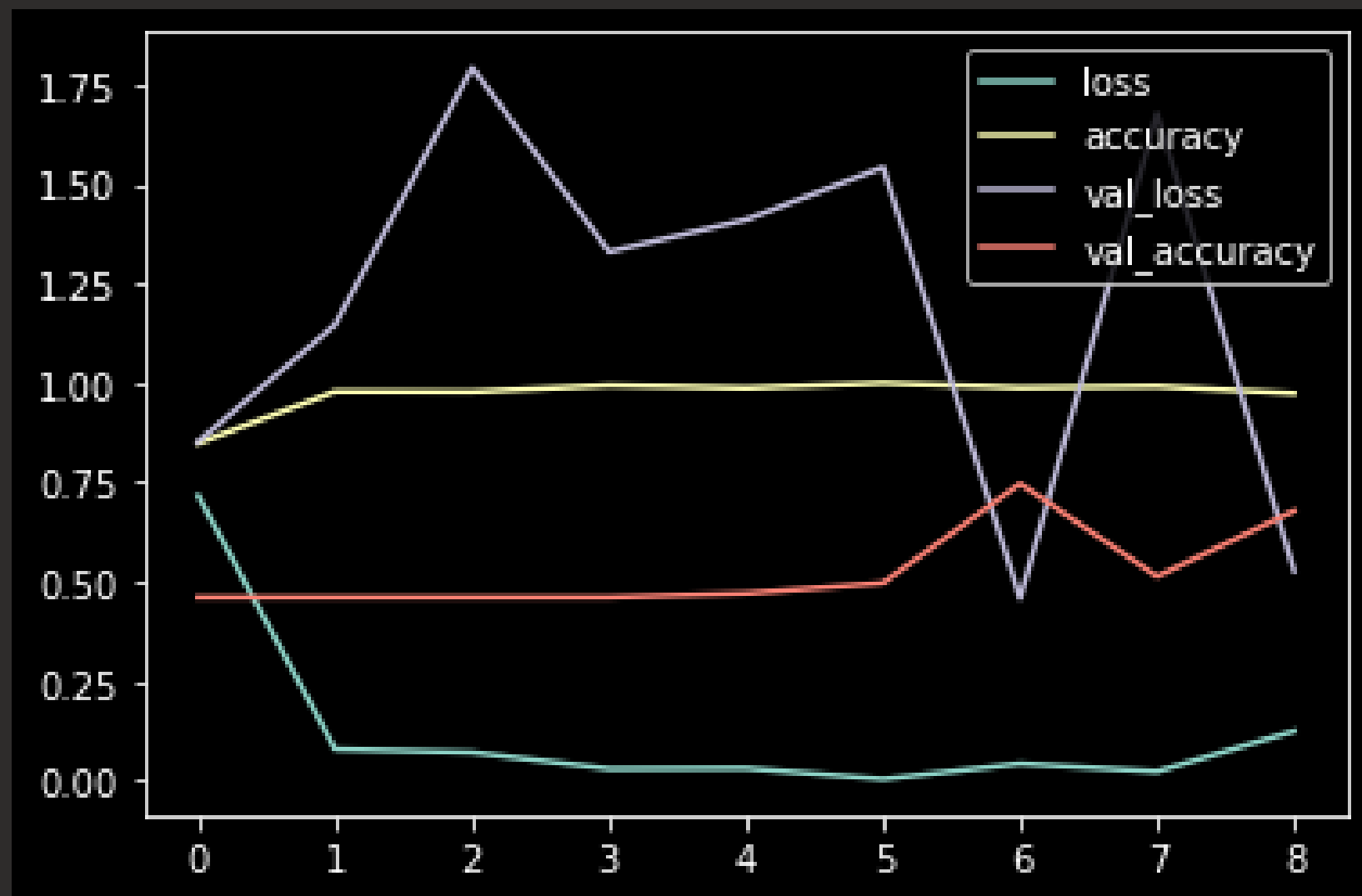


NEGATIVE

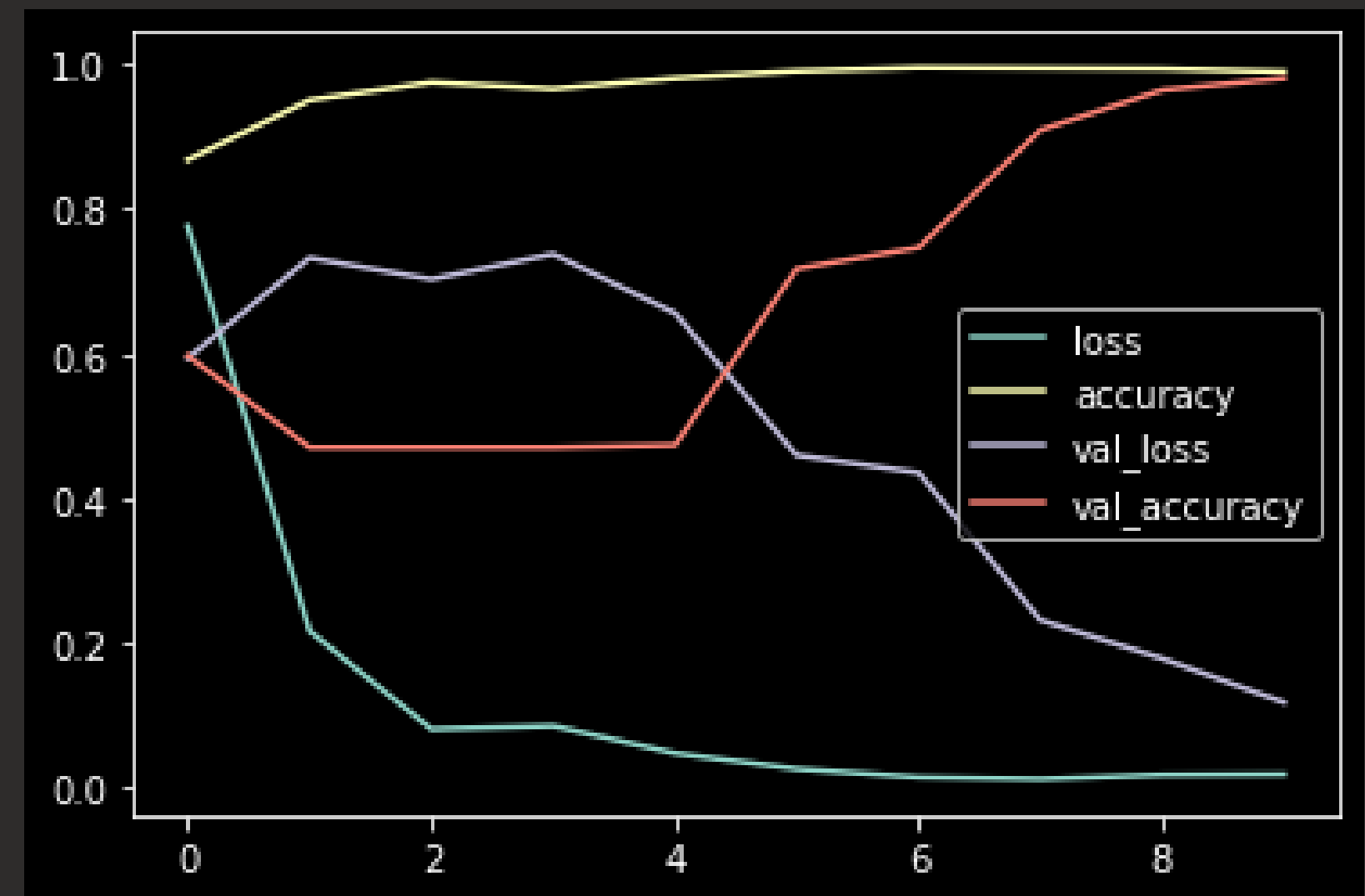
OUR CODE

- Overall view
- Image Processing Techniques
- The Model / Model history

MODEL HISTORY

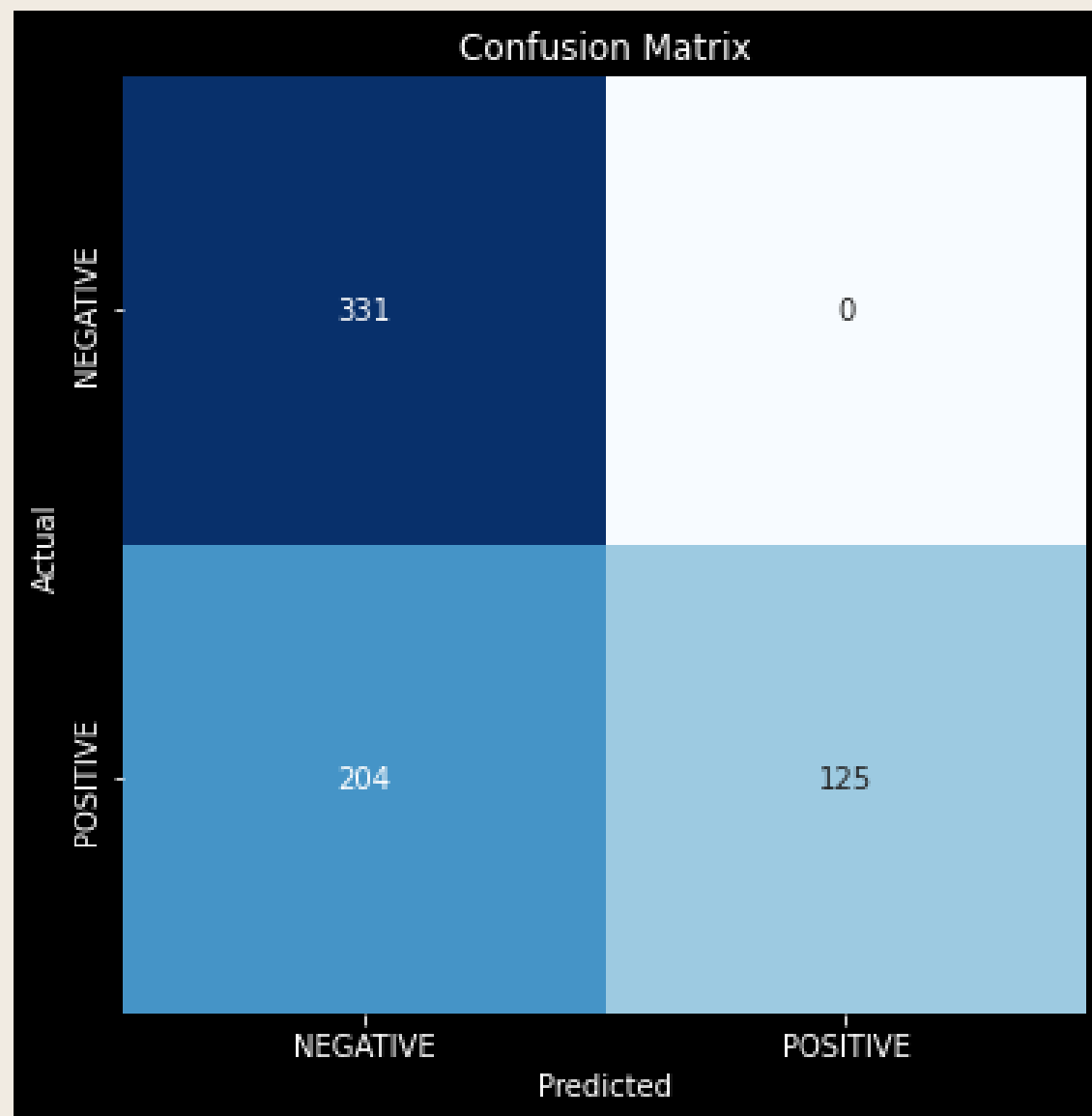


BEFORE



AFTER

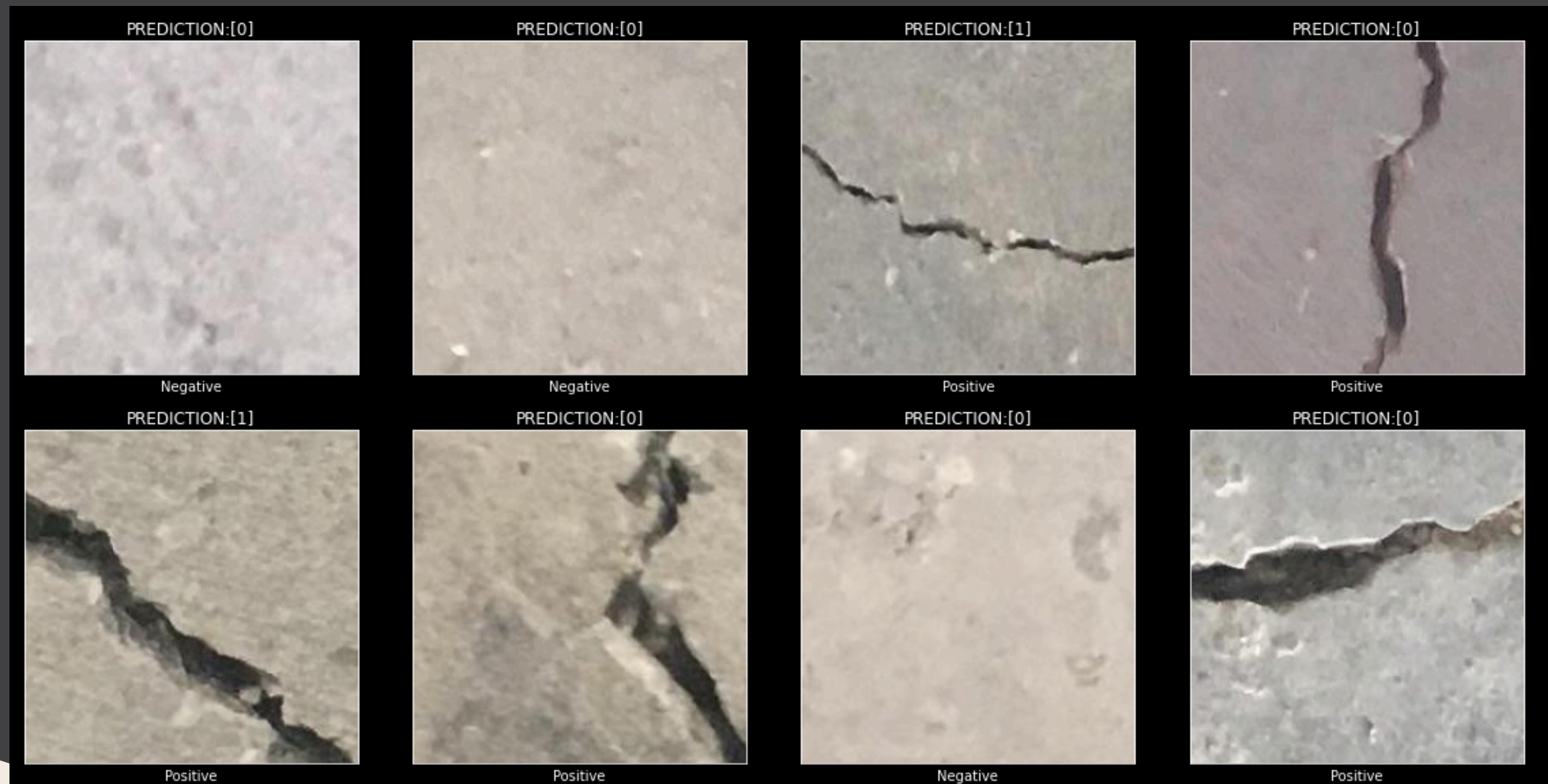
Results before Image Processing



Test Loss:
0.53876

Test Accuracy:
69.09%

Predictions before Image Processing



Results After Image Processing

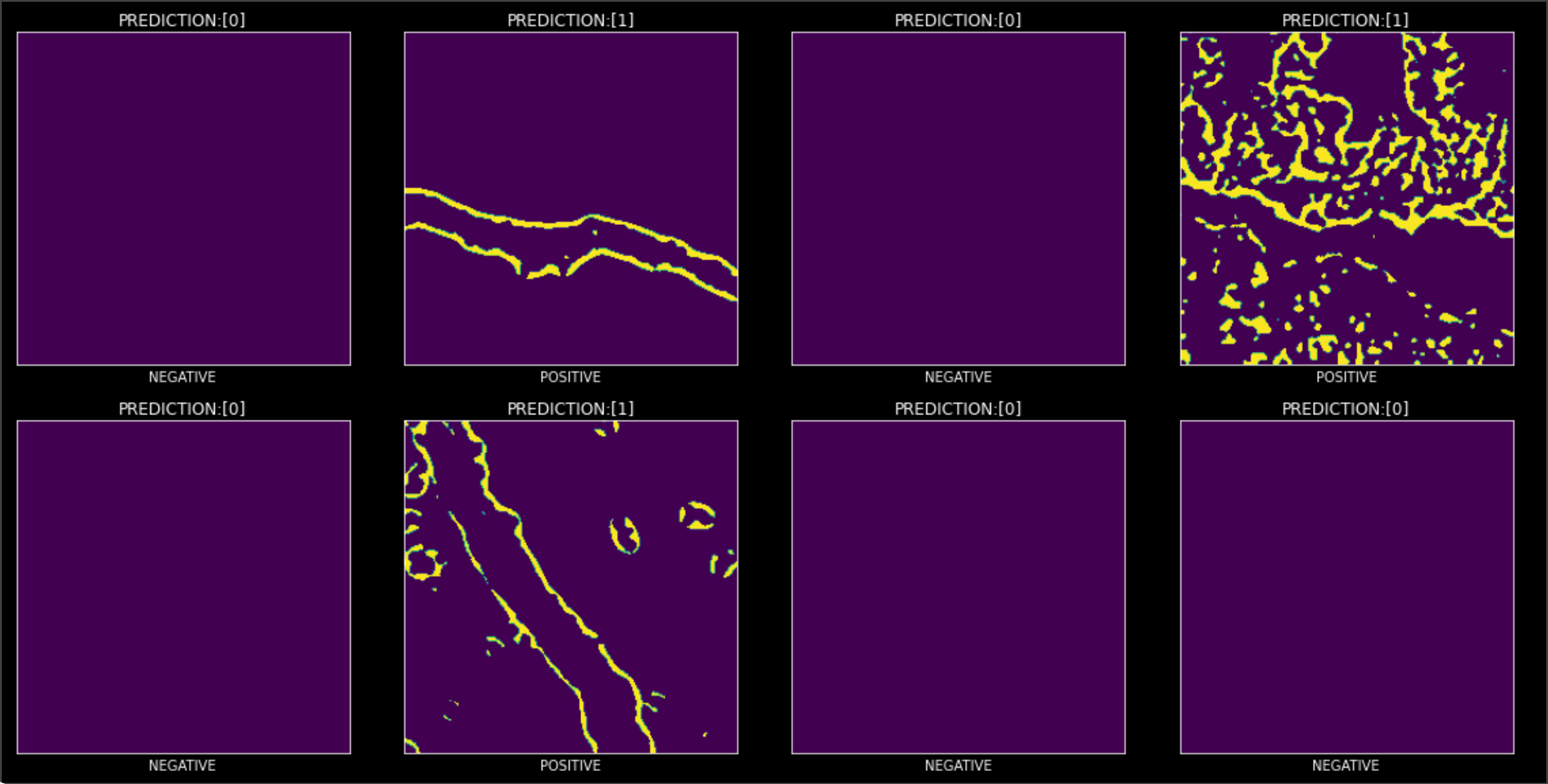
Confusion Matrix

Actual \ Predicted	NEGATIVE	POSITIVE
NEGATIVE	329	4
POSITIVE	11	316

Test Loss:
0.13647

Test Accuracy:
97.73%

Predictions After Image Processing





Any Questions?