

IMAGE CLASSIFICATION USING TRANSFER LEARNING

Đorđe Petrović
Nikola Subotić



OPIŠ PROBLEMA

- 1 Prepoznavanje ručno pisanih cifara, matematičkih operacija
- 2 Evaluacija izraza



Sačinjen od slika cifara i osnovnih
matematičkih
operatora (+, -, *, /, =, ..)

Dataset



PRETPROCESIRANJE

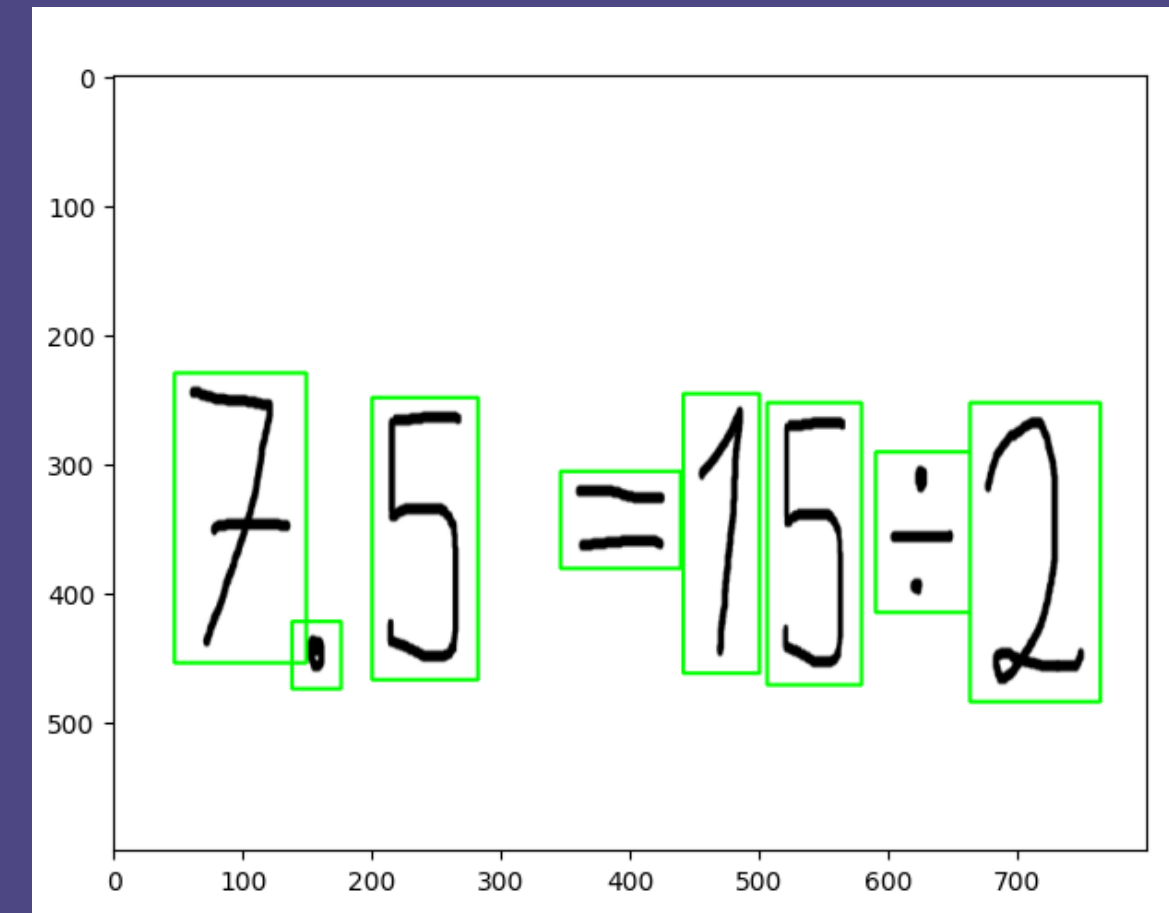
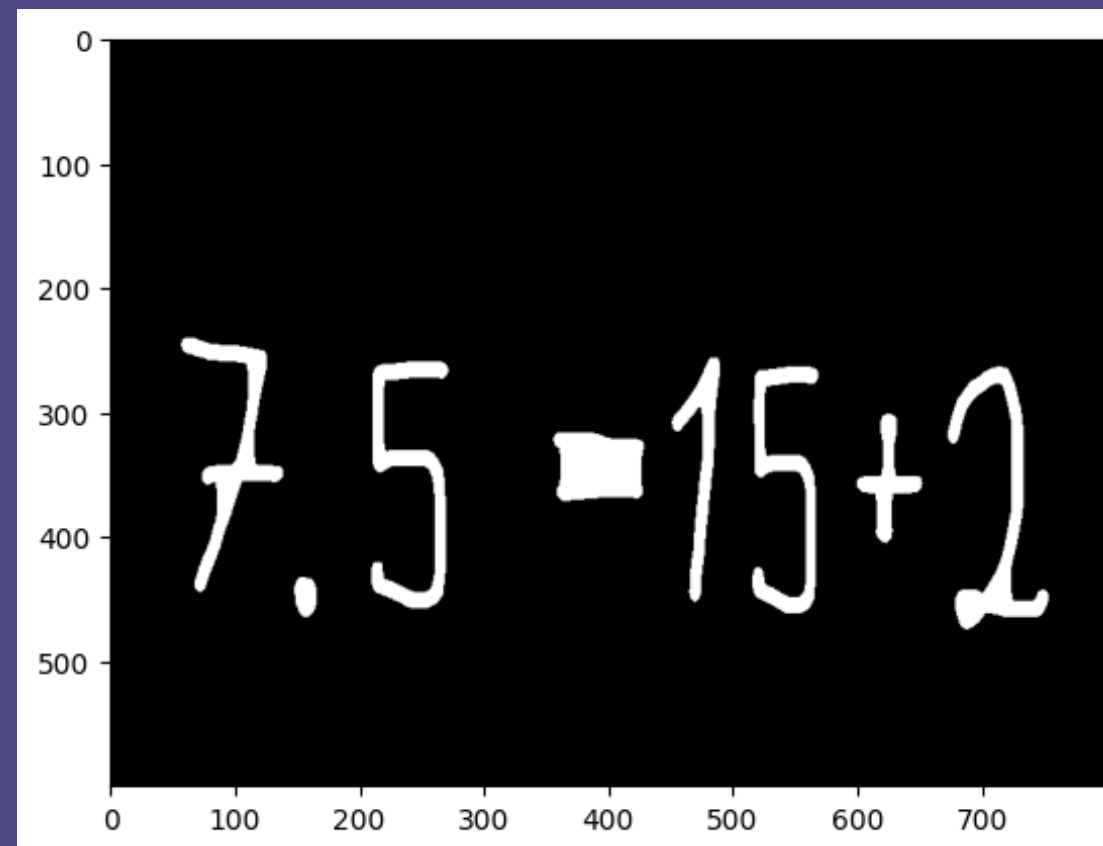
Prebacivanje slike u grayscale,
invertovanje slike i skaliranje.
Augumentacija trening seta.



PREPOZNAVANJE KONTURA

findContours()
morphologyEx()

7.5 = 15 ÷ 2



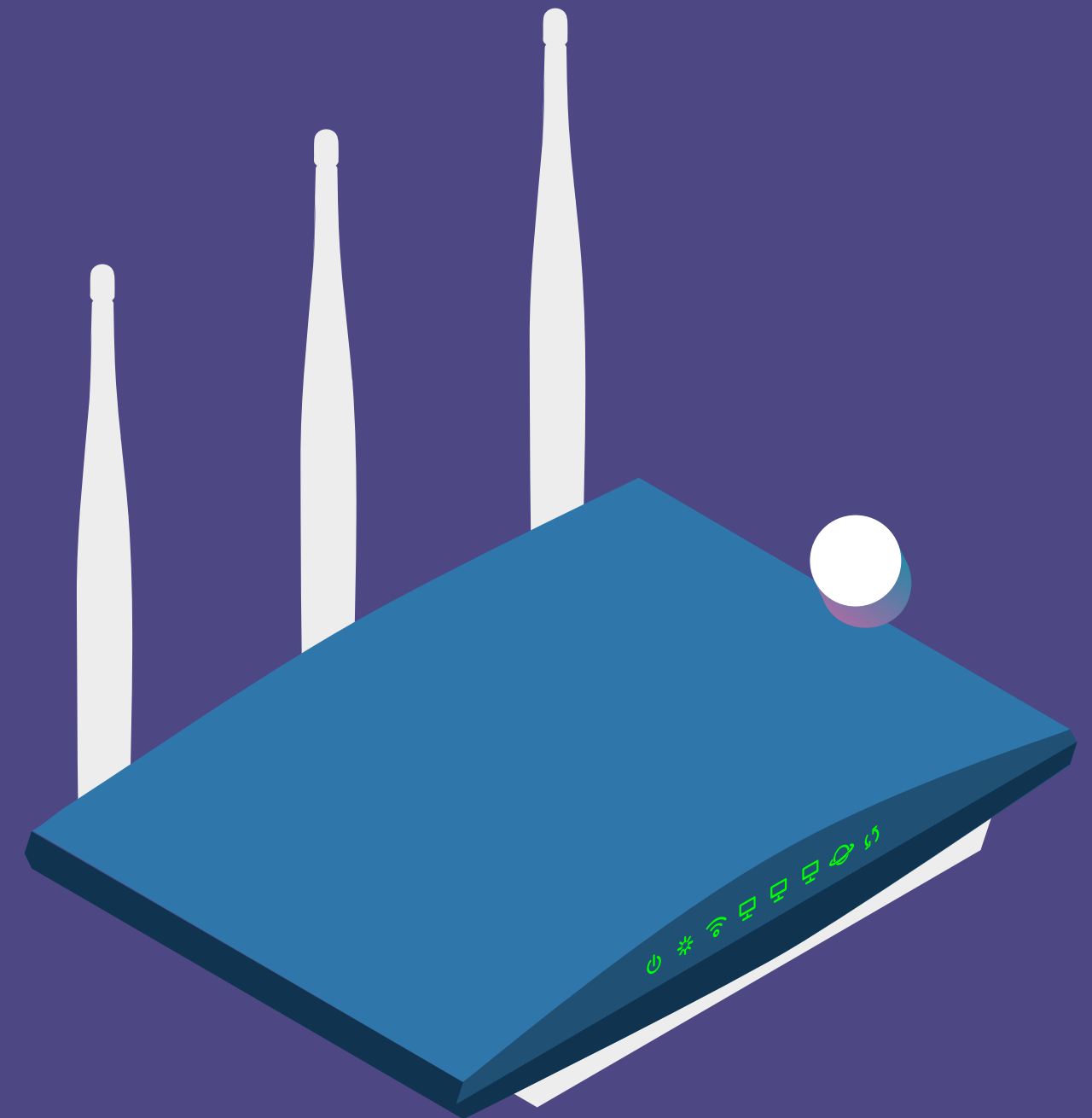
MODELI

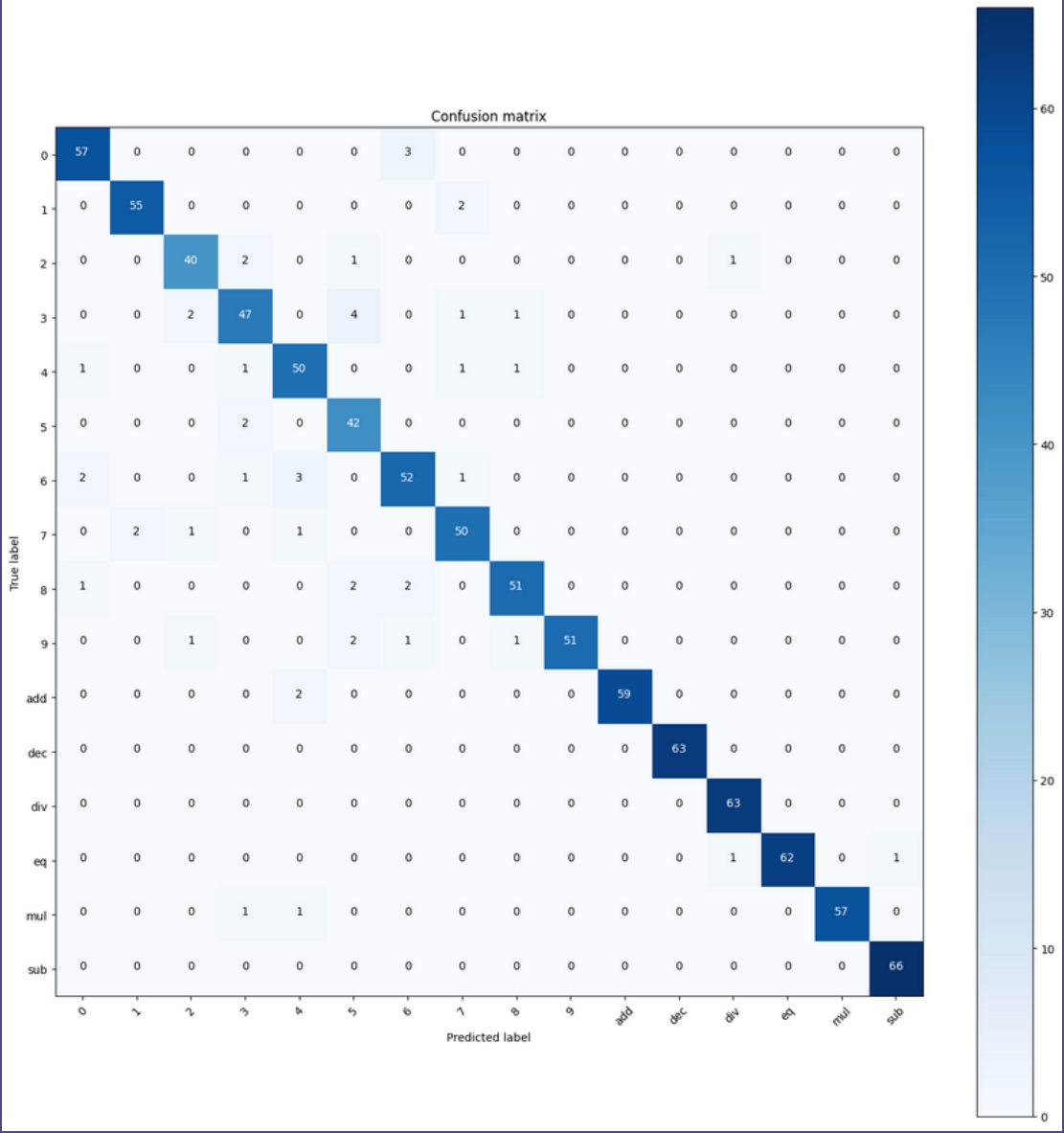
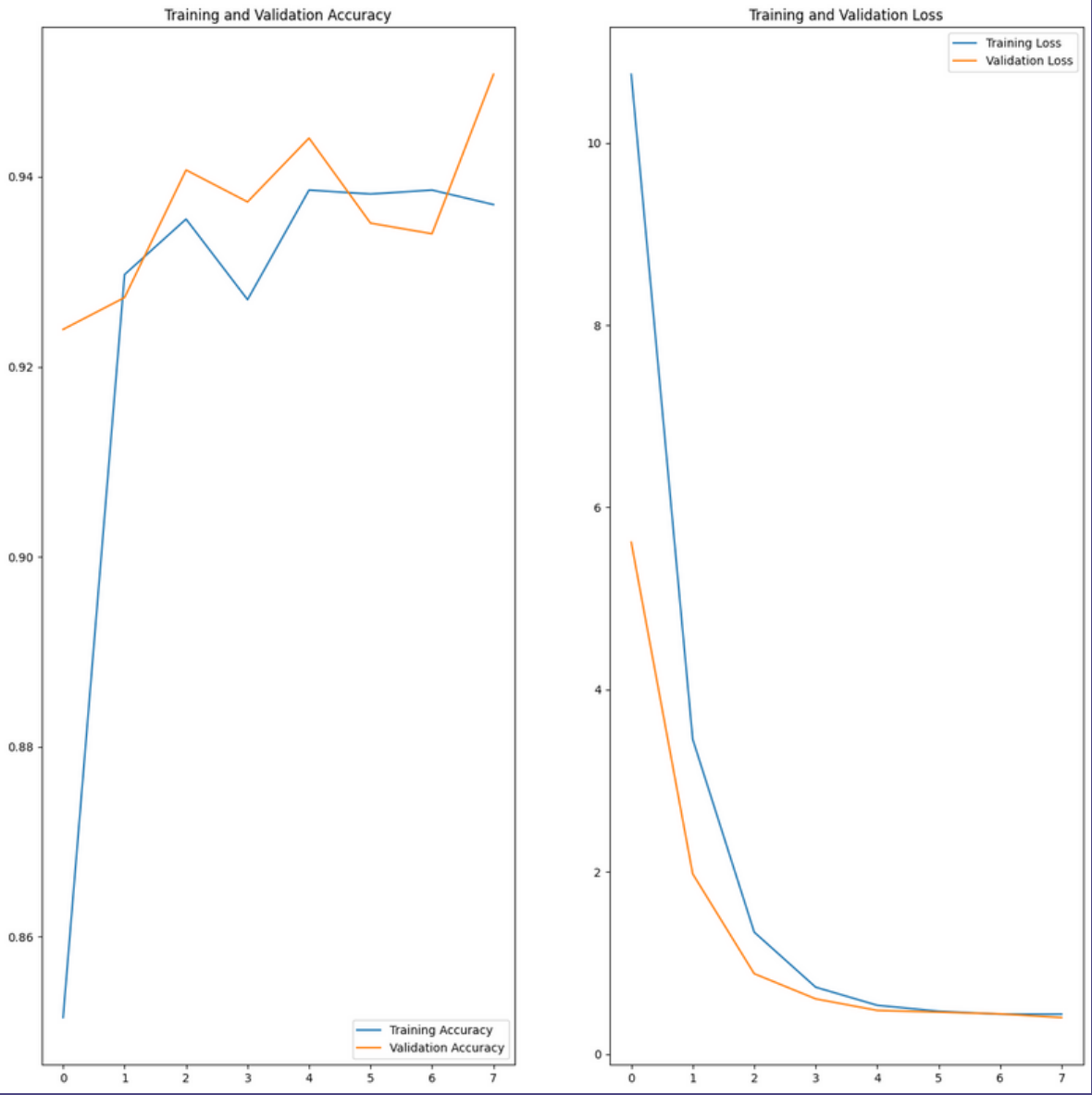
MobileNetV2

Transfer model

Pure model

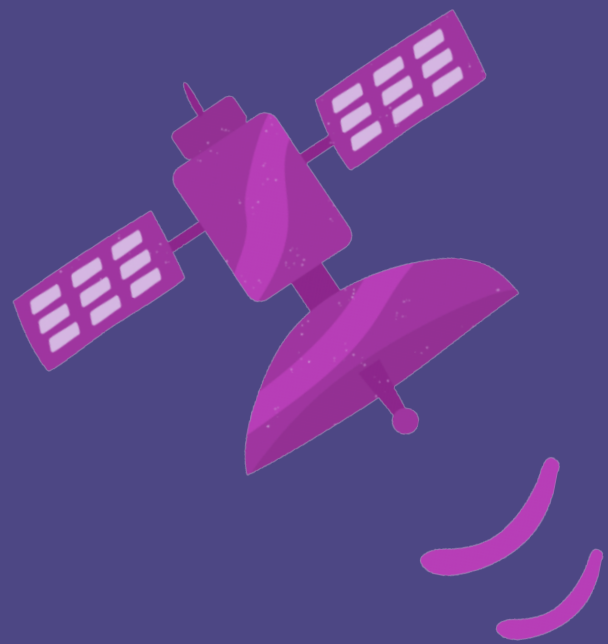
Klasični model





	precision	recall	f1-score
0	0.93	0.95	0.94
1	0.96	0.96	0.96
2	0.91	0.91	0.91
3	0.87	0.85	0.86
4	0.88	0.93	0.9
5	0.82	0.95	0.88
6	0.9	0.88	0.89
7	0.91	0.93	0.92
8	0.94	0.91	0.93
9	1	0.91	0.95
add	1	0.97	0.98
dec	1	1	1
div	0.97	1	0.98
eq	1	0.97	0.98
mul	1	0.97	0.98
sub	0.99	1	0.99
accuracy	0.95		

PITANJA?



HVALA NA PAŽNJI!