

KLASIFIKACIJA SEKVENCI NUKLEOTIDA KORIŠĆENJEM KONVOLUCIONIH NEURONSKIH MREŽA

Nataša Jovanović
Elektrotehnički fakultet
jovanovicnataša001@gmail.com

Mentor:
Miloš Jordanski

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Marija Nedeljković
Elektrotehnički fakultet
nedeljkovicmajaa@gmail.com

Klasifikacija pre-miRNAK sekvenci



01

PREGLED METODA



Input
1x164x4

Conv2D
32x159x4

MaxPool
32x1x4

Flatten
512x1x1

Dense
128x1

Softmax
2x1

C	0	0	0	1
U	0	1	0	0
G	0	0	1	0
A	1	0	0	0

...

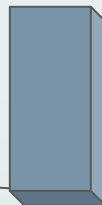
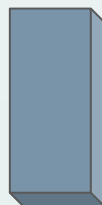
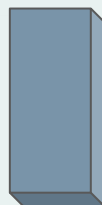
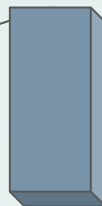
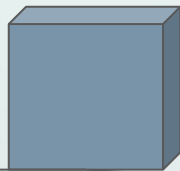
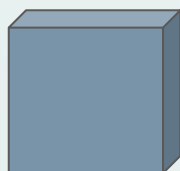
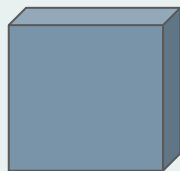
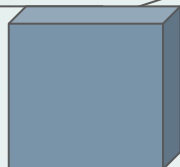
A	1	0	0	0
A	1	0	0	0
G	0	0	1	0
C	0	0	0	1

...

U	0	0	1	0
C	0	0	0	1
A	1	0	0	0
G	0	1	0	0

...

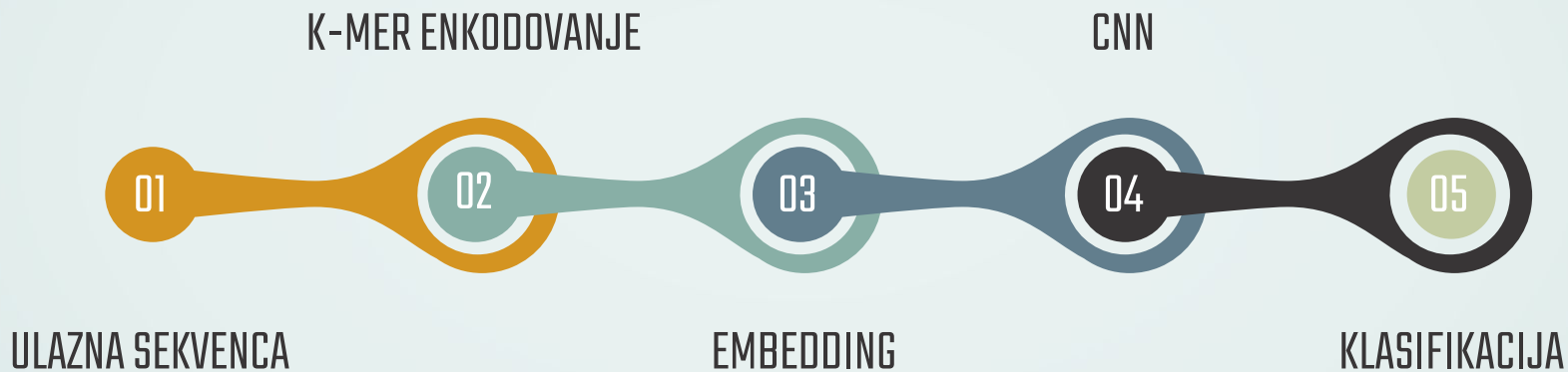
N	0	0	0	0
N	0	0	0	0
N	0	0	0	0
N	0	0	0	0



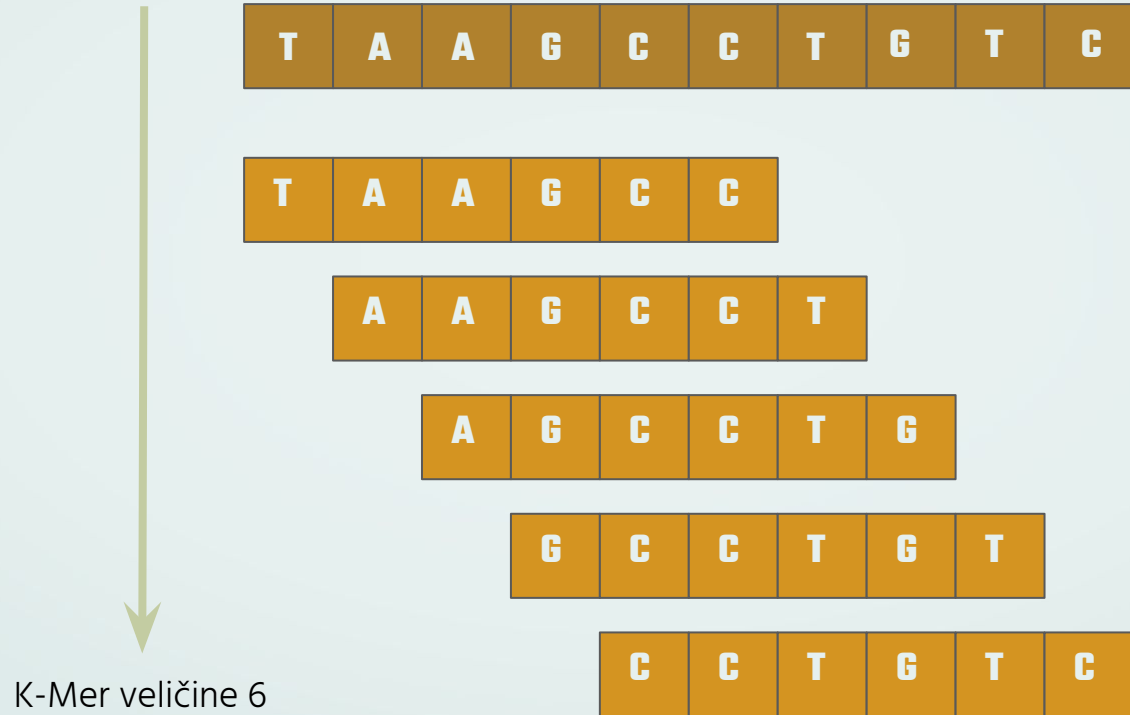
Klasifikacija DNK sekvenci

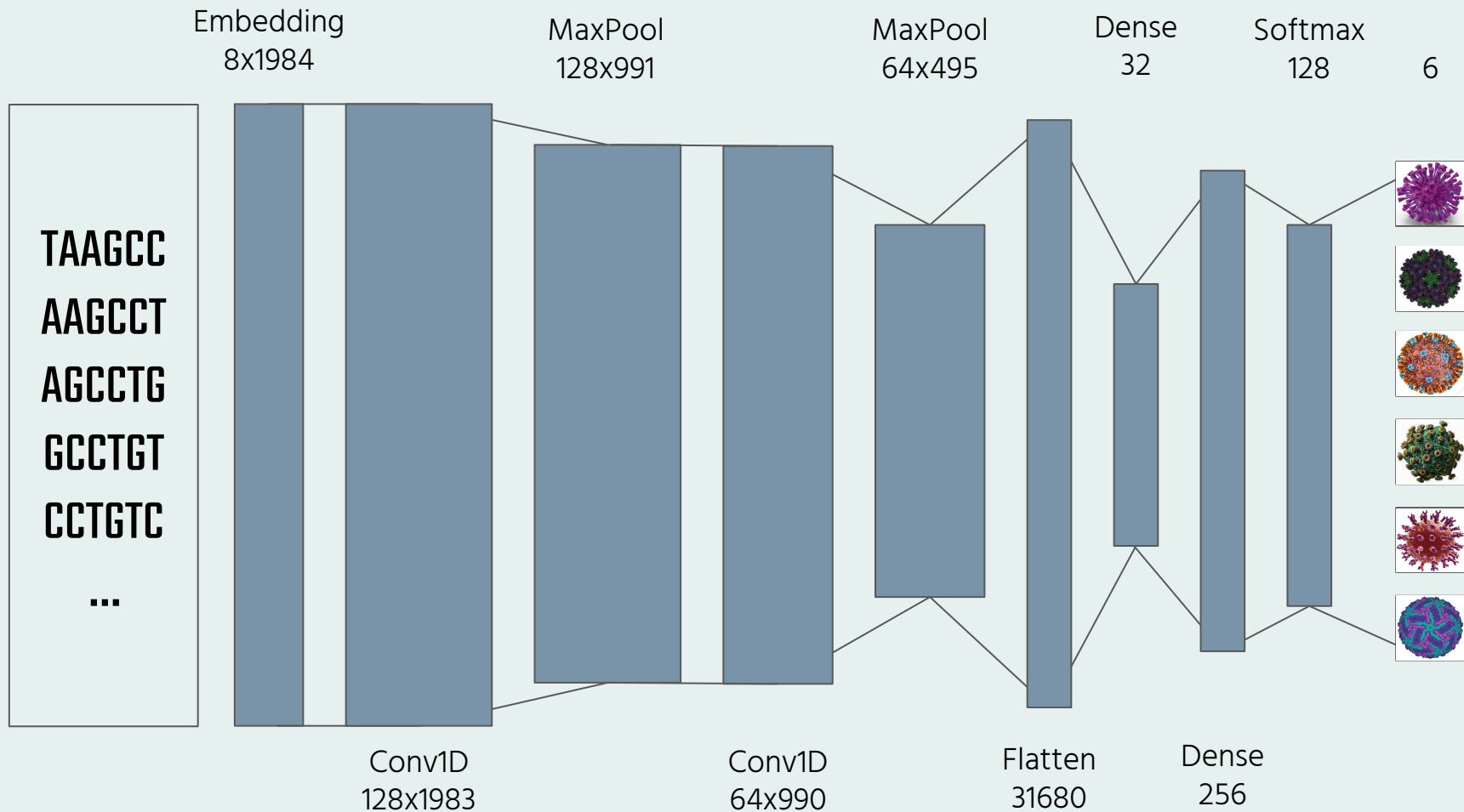


PREGLED METODA



K-Mer Enkodovanje





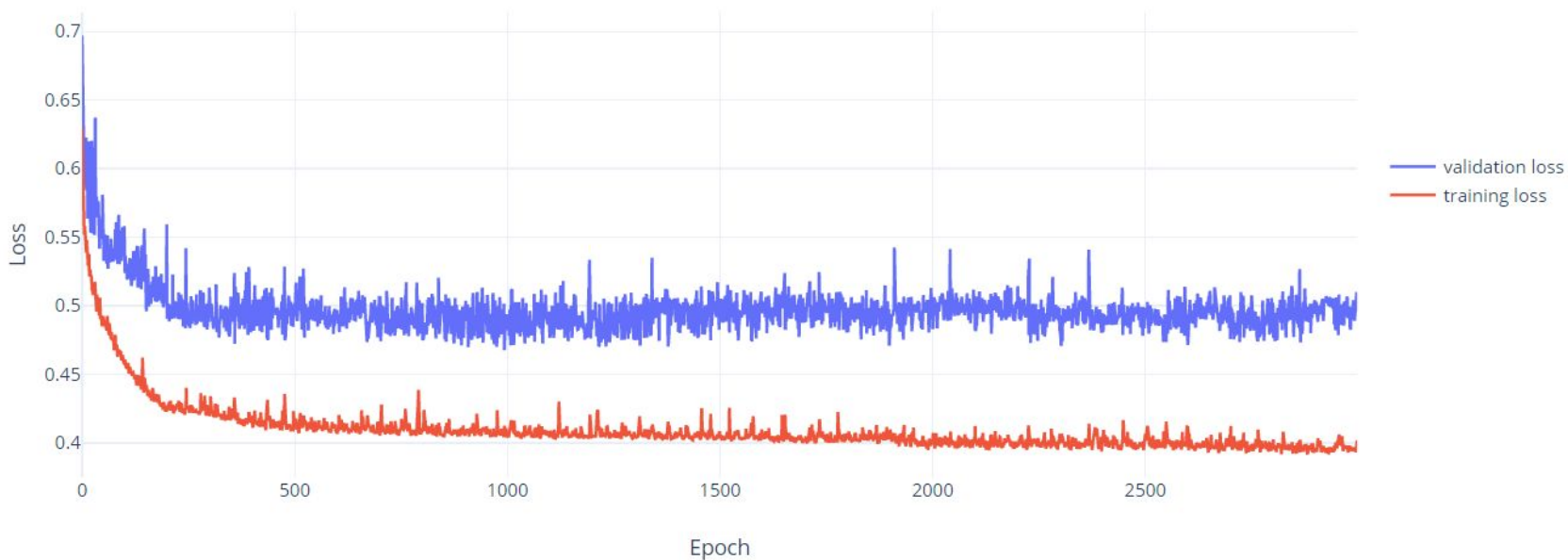
An abstract graphic design on a light blue background. It features several organic, teardrop-like shapes in orange, olive green, and dark grey. A central dark grey shape contains a white circle with the number '03' in white. Other shapes include an orange one with a green circle, a white one with a green and blue circle, and a green one with a dark grey and blue circle. There are also small solid circles in orange, white, and teal scattered around.

03

Rezultati

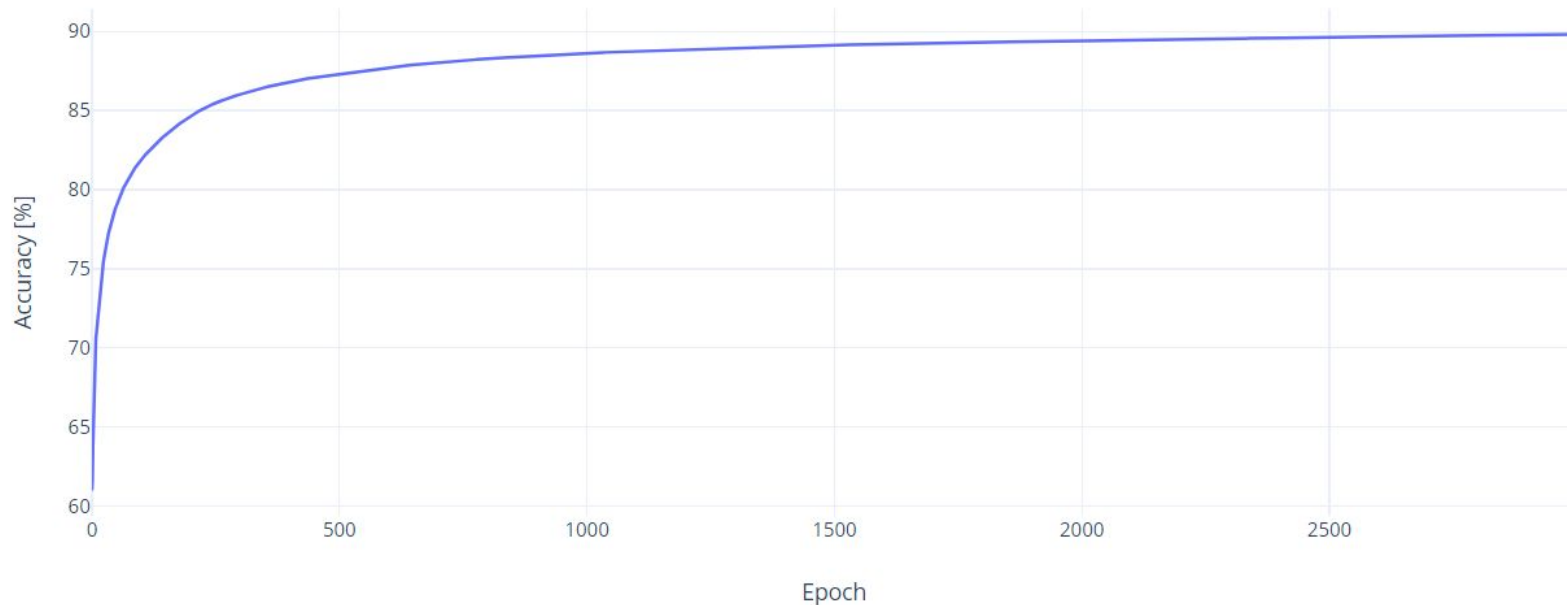
Ponašanje funkcije gubitka kroz epohe

Loss during epochs



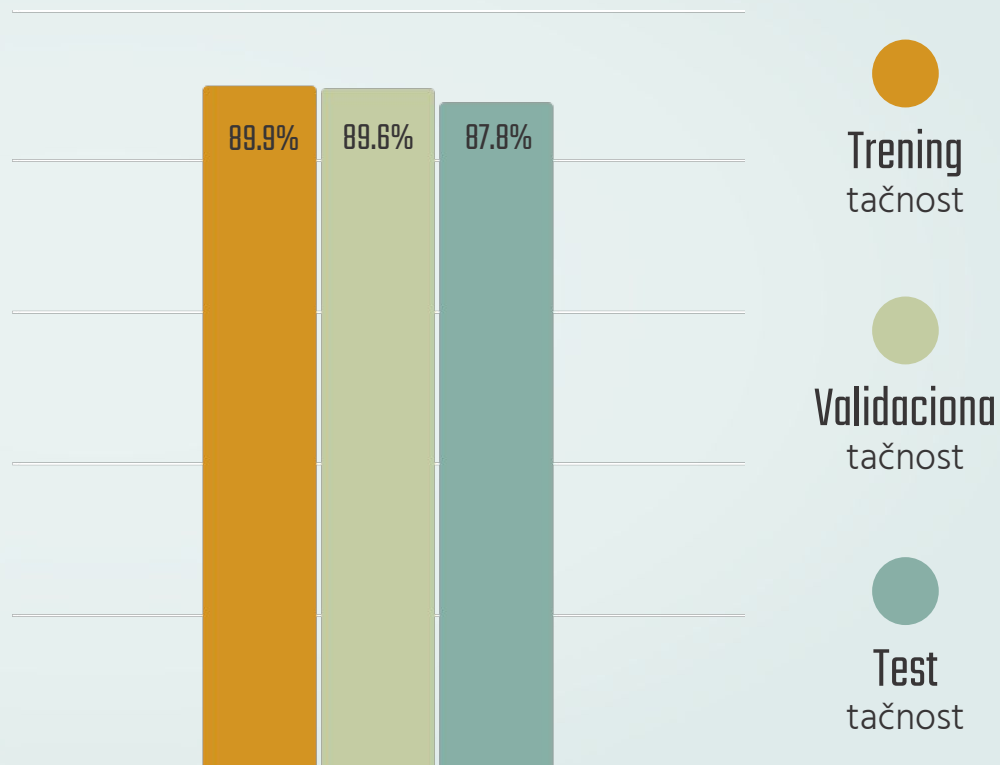
Ponašanje tačnosti kroz epohe

Validation accuracy during epochs



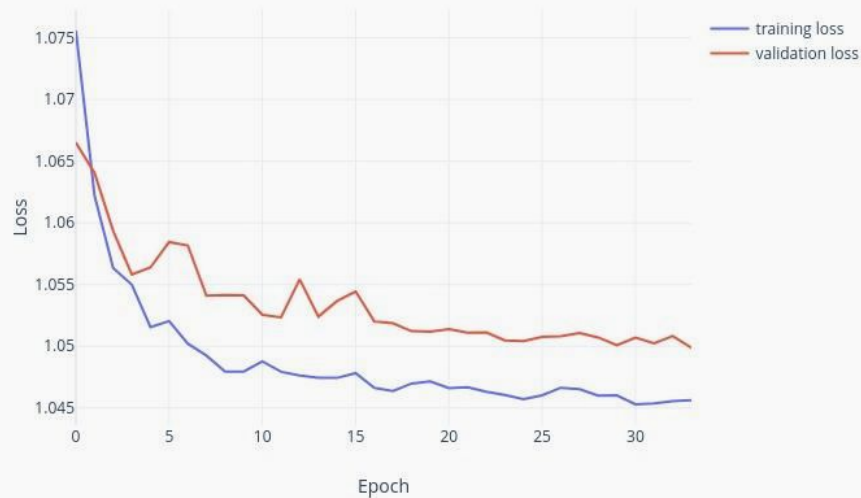
miRNK \ Tačnost i ostale metrike

	Metrike
Senzitivnost	0.8612
Specifičnost	0.9640
F1	0.8977
MCC	0.8082

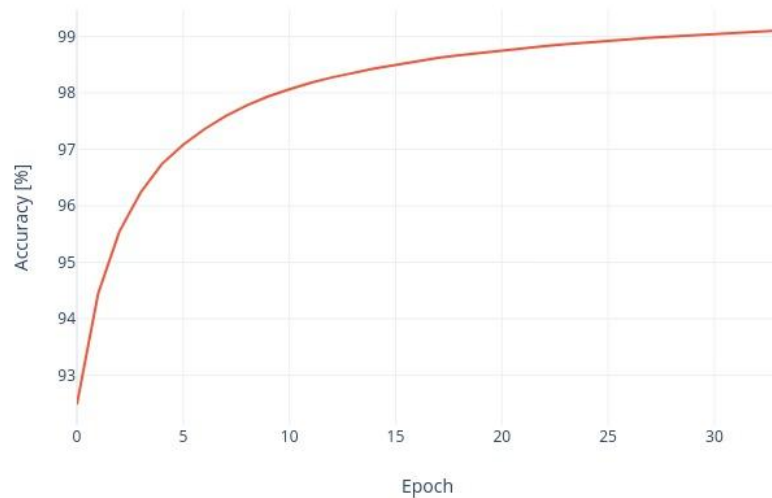


Ponašanje funkcije gubitka i tačnosti kroz epohe

Loss during epochs

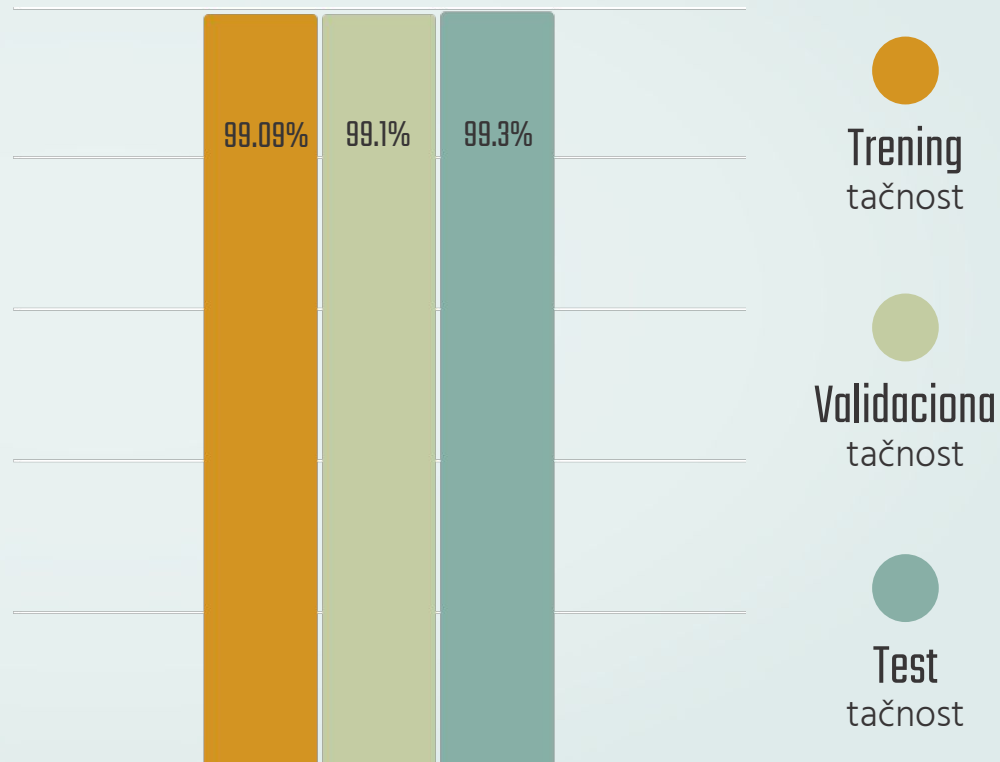


Validation accuracy during epochs



DNK\Tačnost i ostale metrike

	Metrike
Senzitivnost	0.9708
Specifičnost	0.9980
F1	0.9803
MCC	0.9764



Budući rad





BUDUĆI RAD



Dodavanje novih
klasa sekvenci
virusa

Proširivanje
maksimalne
dozvoljene dužine
sekvenci

Poboljšanje datih
arhitektura

Upotreba novih
metoda klasifikacije

The background is a light blue-grey color. It features several abstract geometric elements: thick lines in orange, teal, and white that connect circular nodes. Some nodes are solid circles, while others are white circles with black outlines. Scattered throughout the background are numerous small circles in white, black, teal, and orange. The overall style is modern and minimalist.

Hvala na pažnji!