Matematički fakultet

Dijagnostika motornog pogona bez senzora

Predmet: Istraživanje podataka

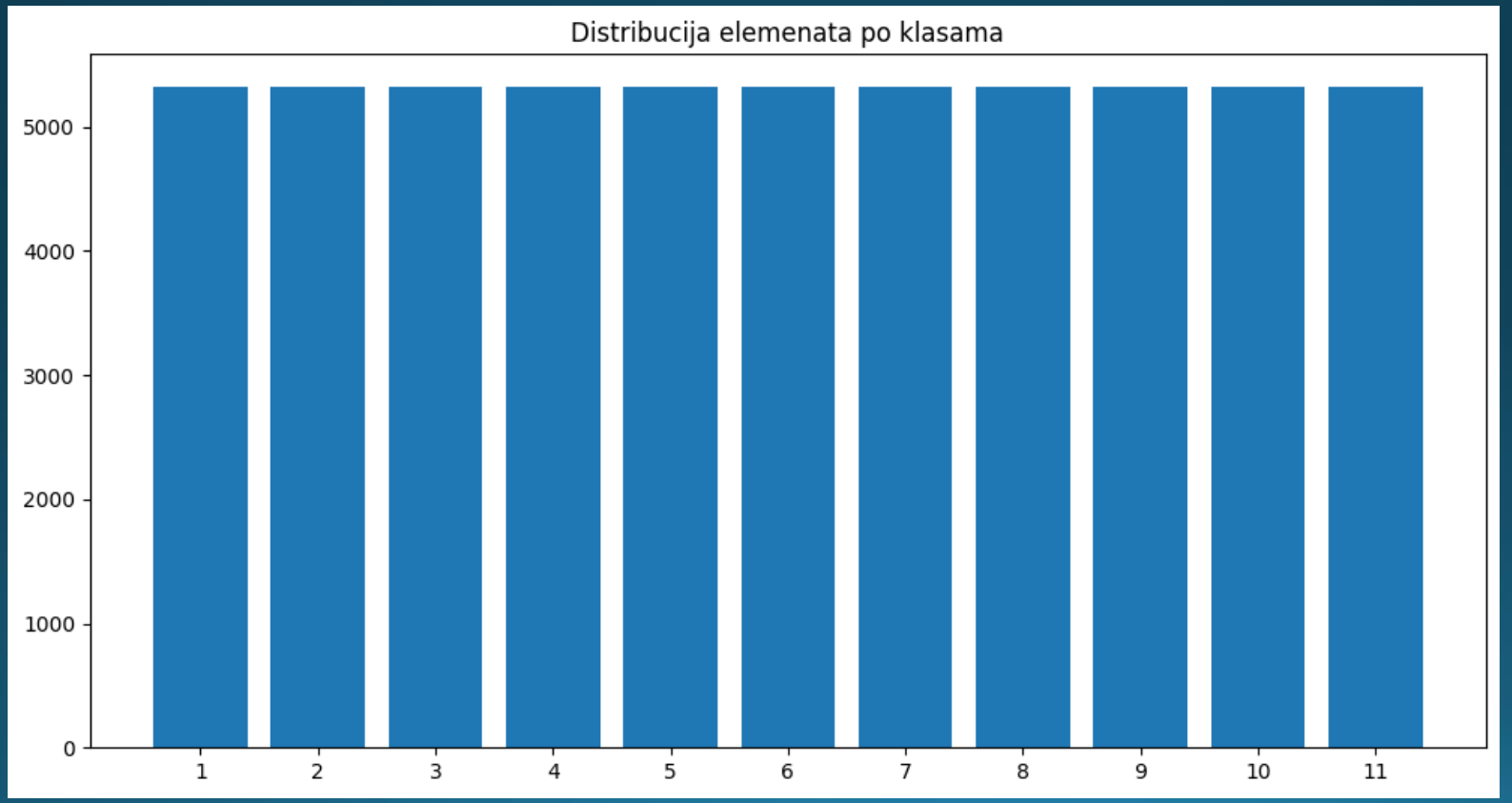
Student: Mihailo Dedić

Opis skupa podataka

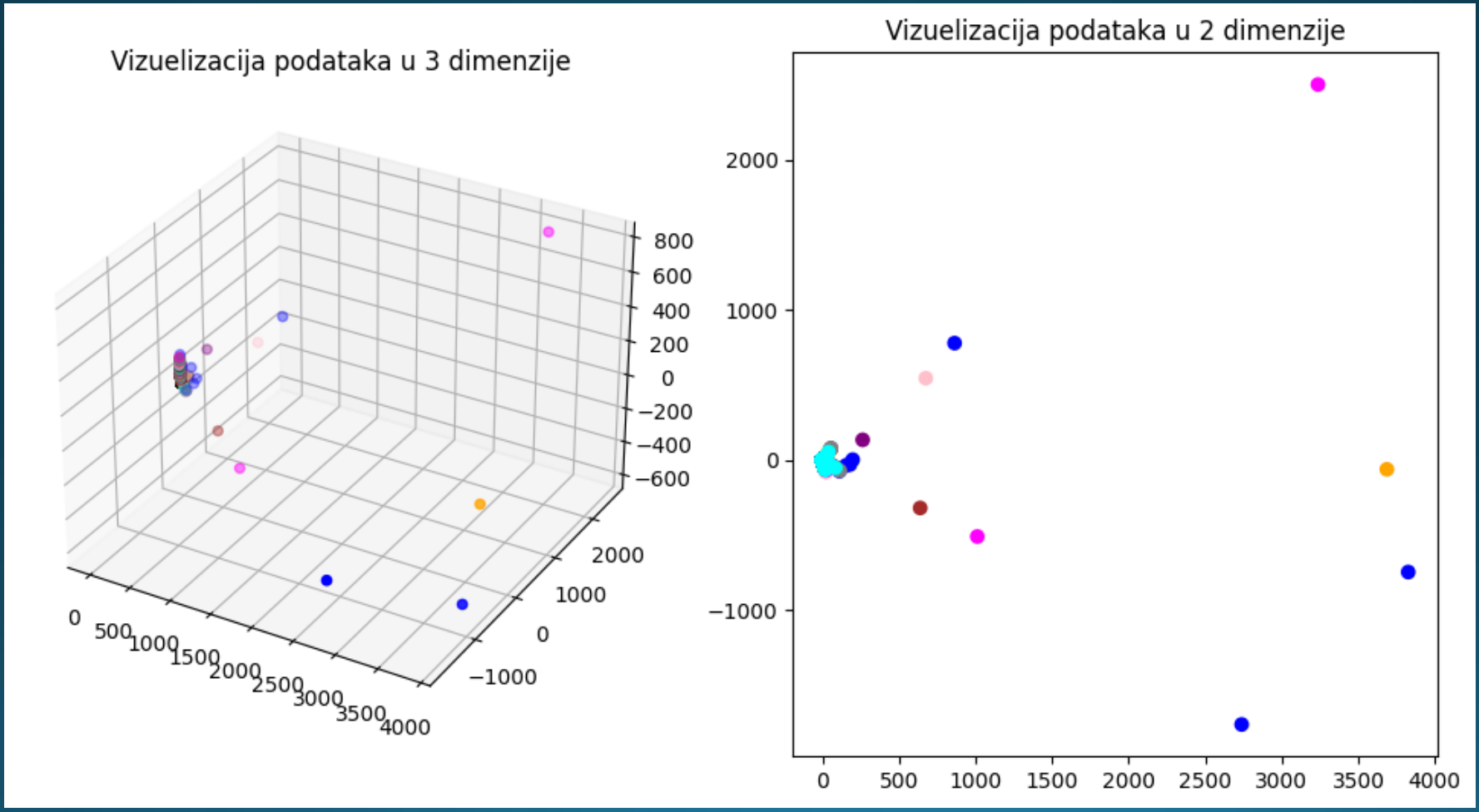
- 58509 instanci
- 48 numeričkih atributa i jedan klasni
- 11 klasa(stanja) – 1 ispravno i 10 neispravnih

Ekplorativna analiza

- Nijedan atribut nema nedostajuće vrednosti
- Provera balansiranosti klasa:

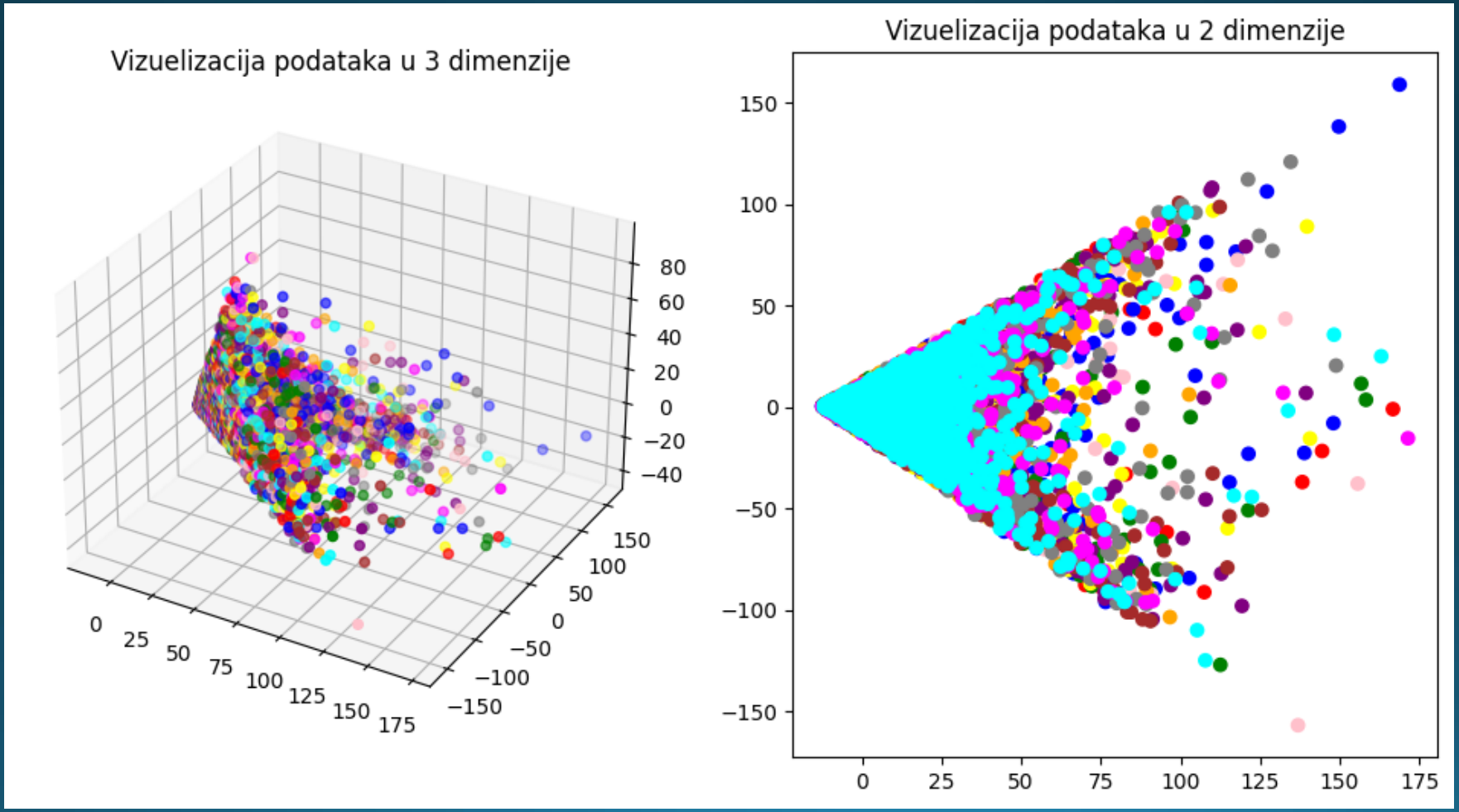


Ekplorativna analiza – vizualizacija podataka



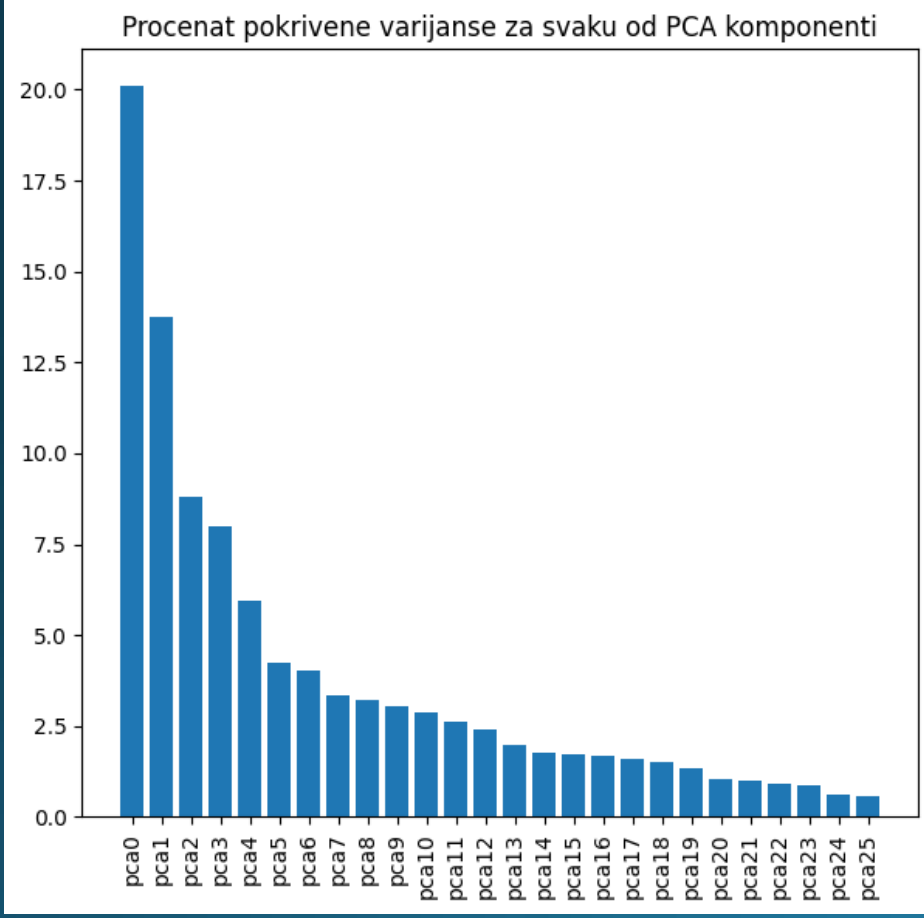
Ekploracija podataka – vizualizacija podataka

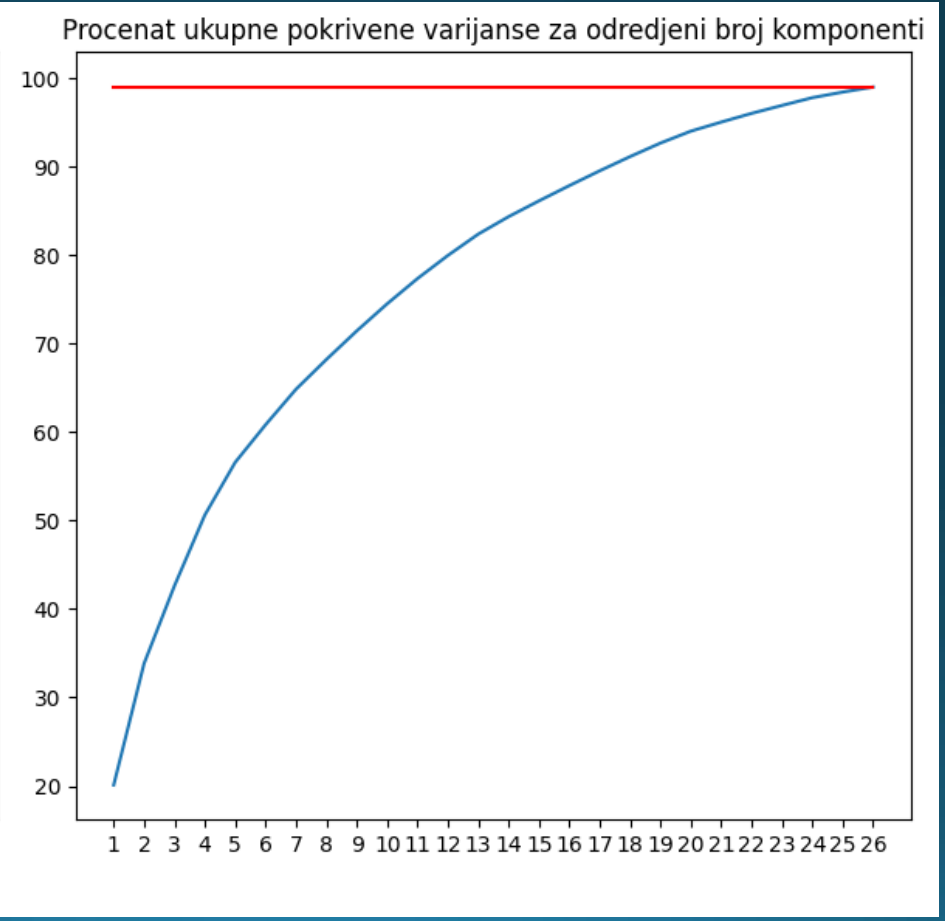
- Nakon uklanjanja nedostajućih vrednosti:



Pretprocesiranje za klasifikaciju

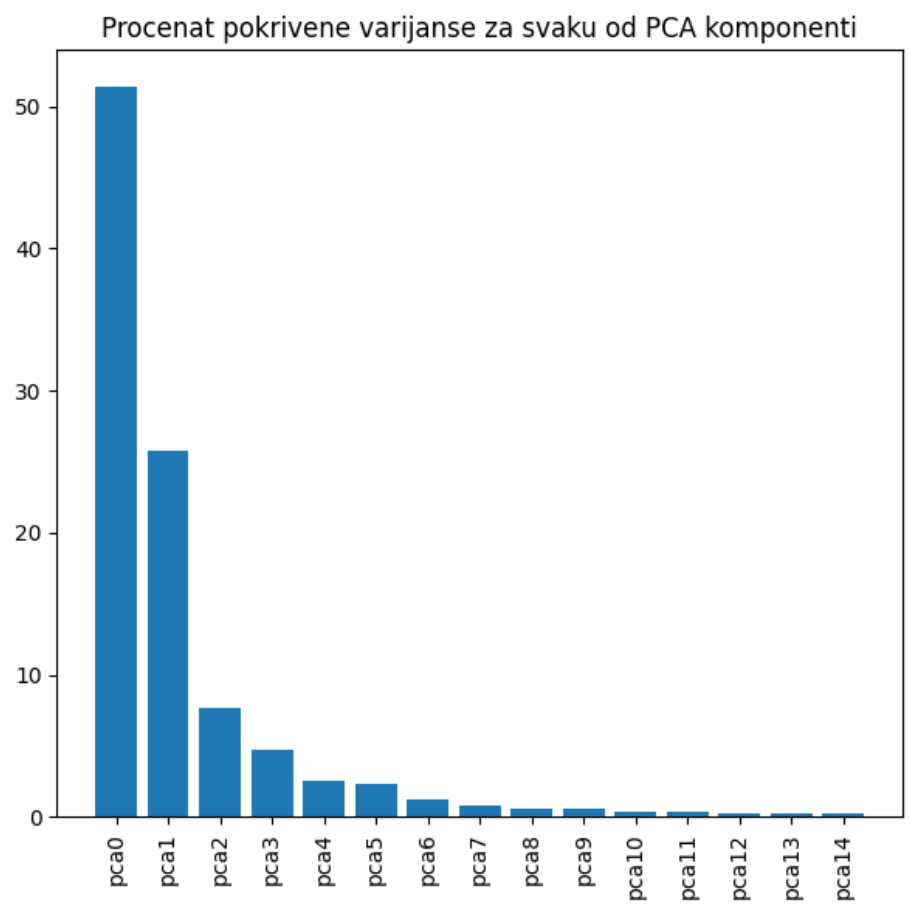
- PCA analiza izvršena nad standardizovanim podacima

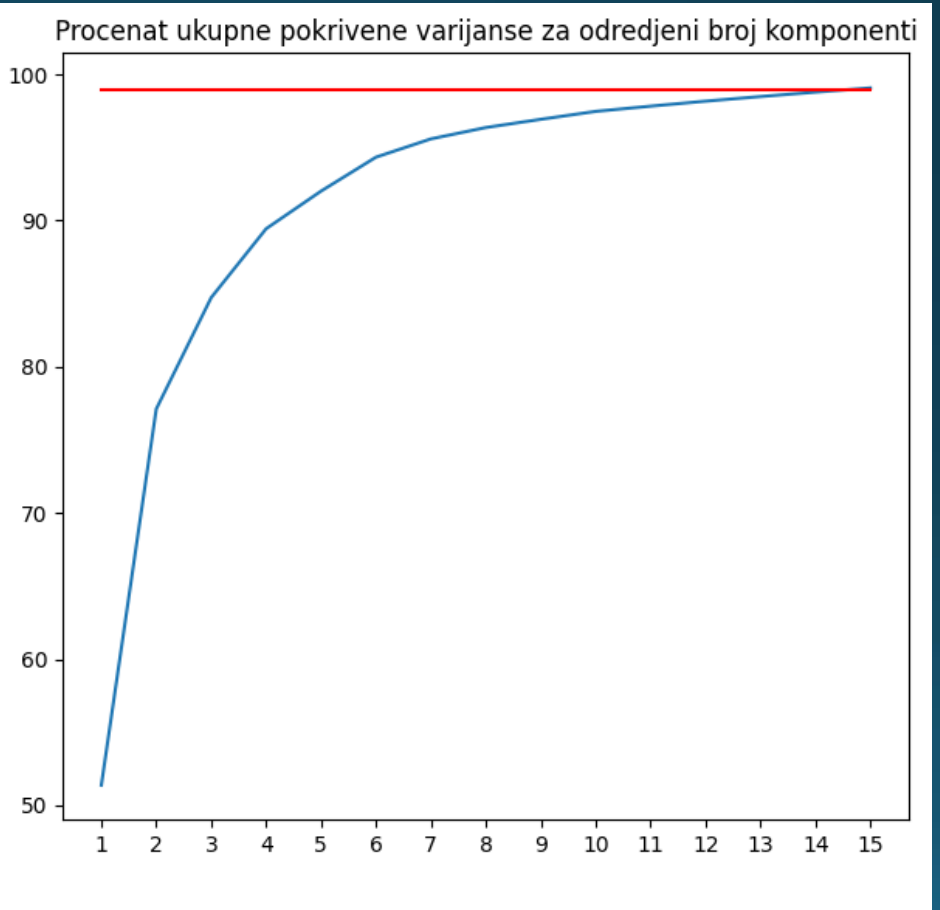




Pretprocesiranje za klasifikaciju

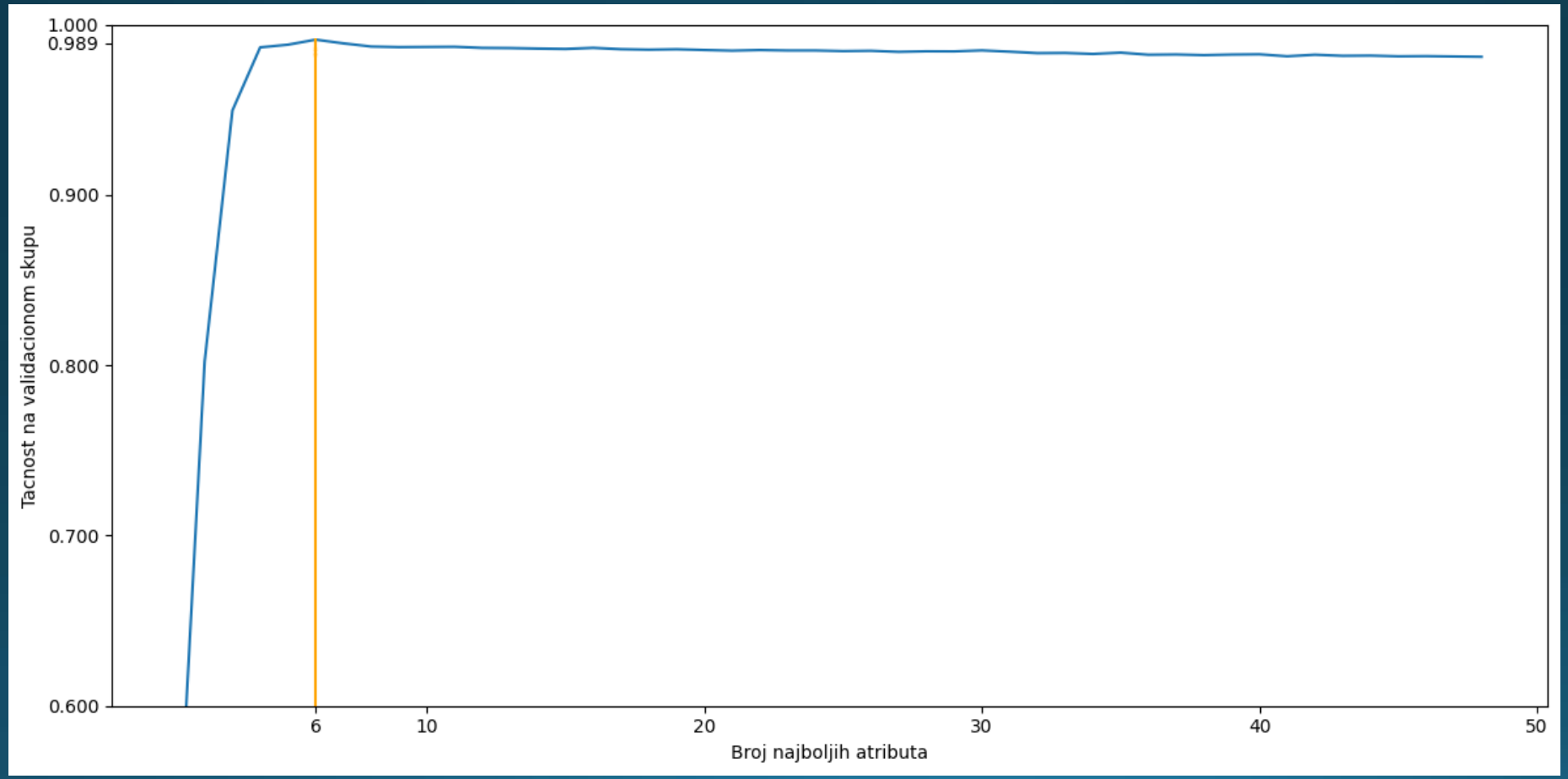
- PCA analiza izvršena nad normalizovanim podacima





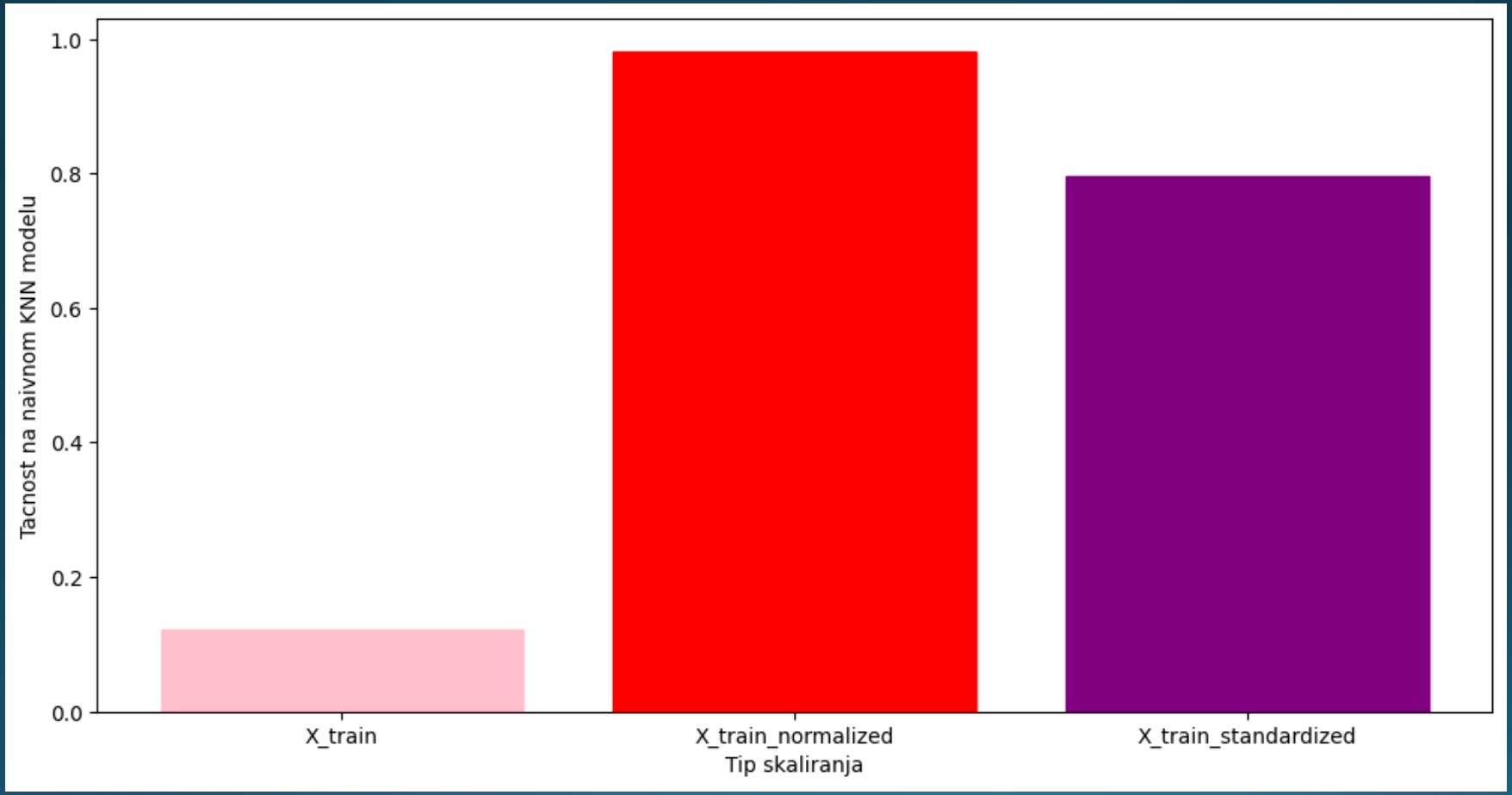
Pretprocesiranje za klasifikaciju

- RFE analiza



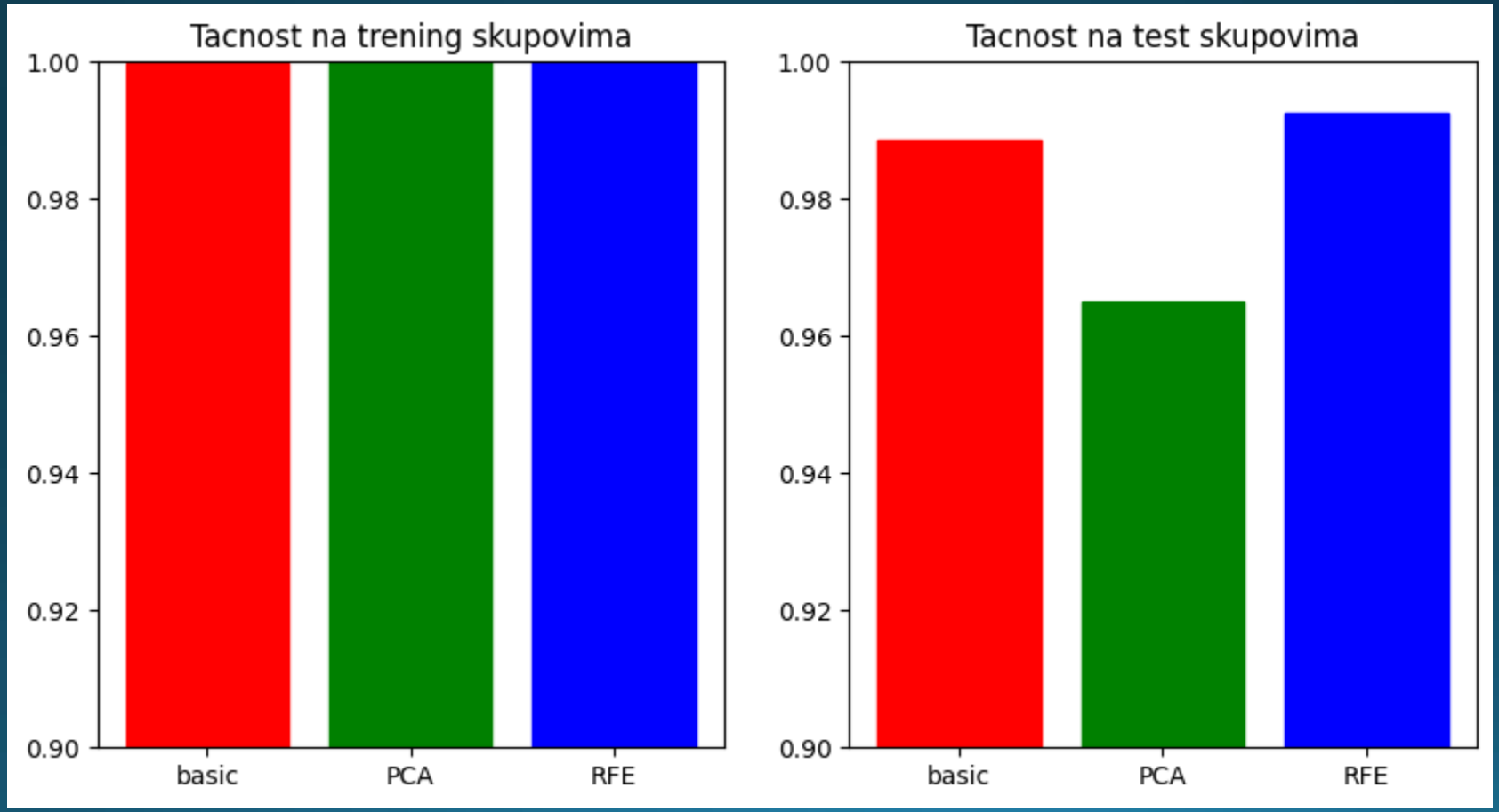
Pretprocesiranje za klasifikaciju

- Dodatno pretprocesiranje za KNN model



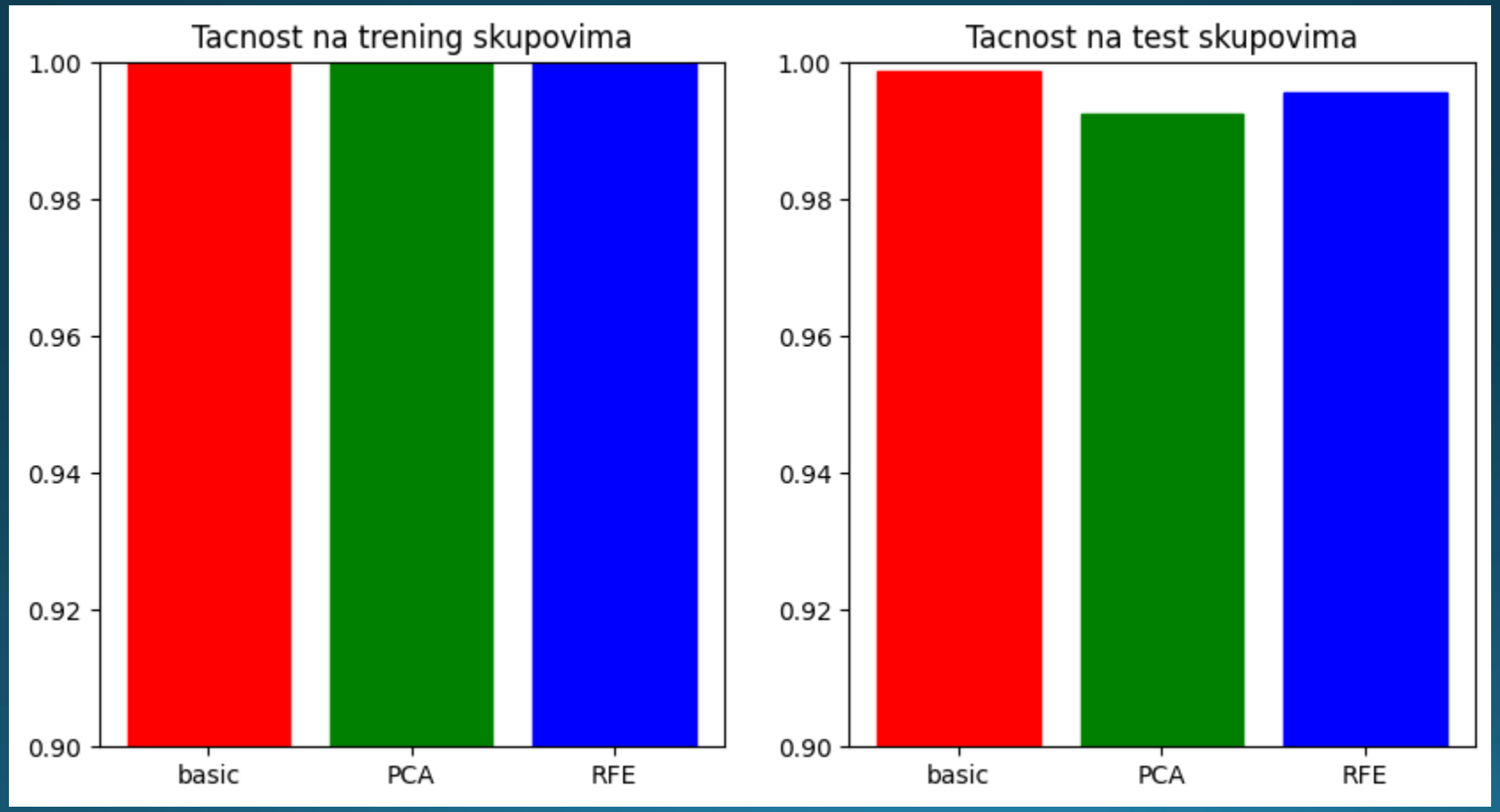
Klasifikacija

- Drvo odlučivanja (DTC)



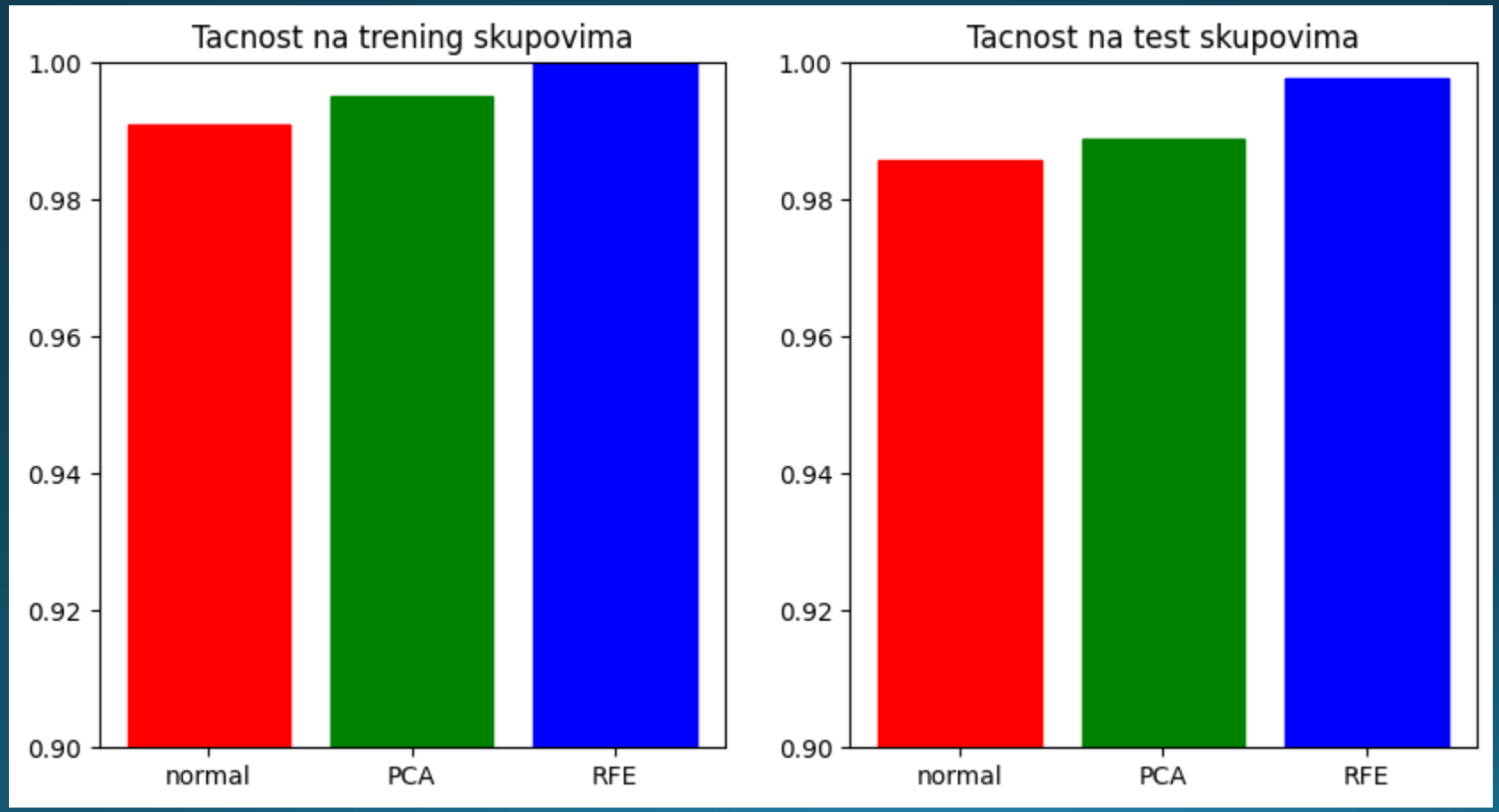
Klasifikacija

- Slučajna šuma (RFC)



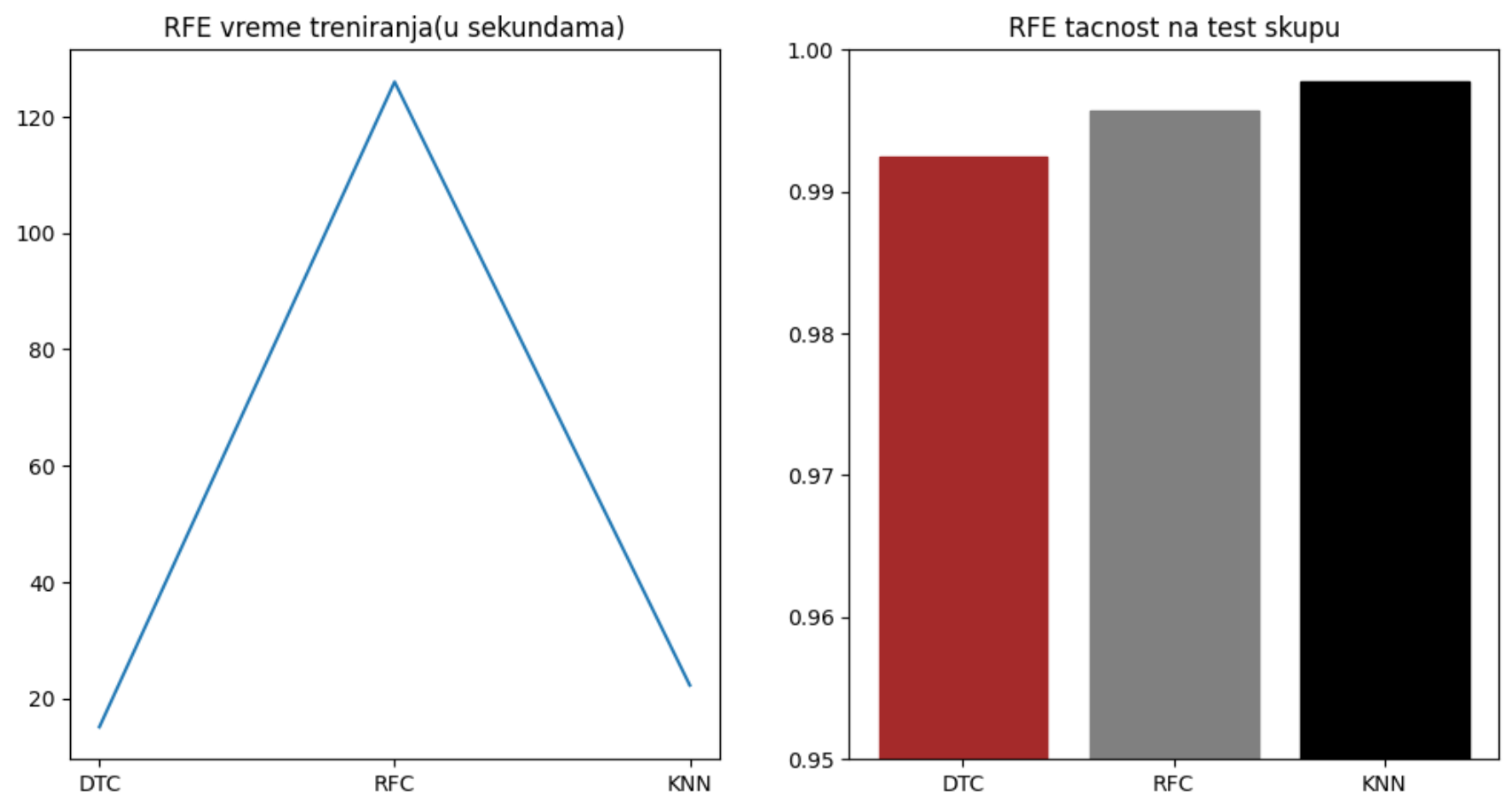
Klasifikacija

- K najbližih suseda (KNN)

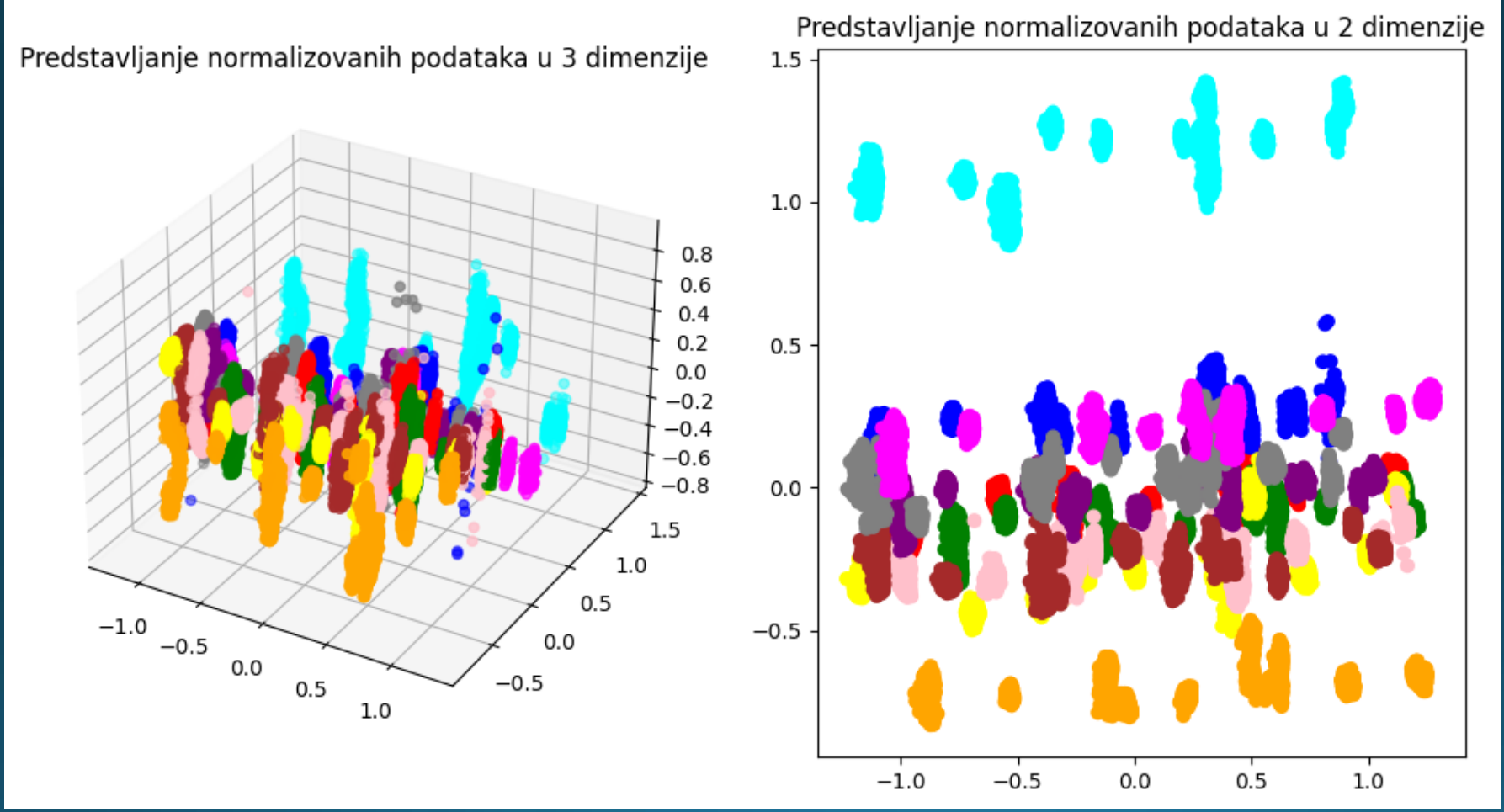


Klasifikacija

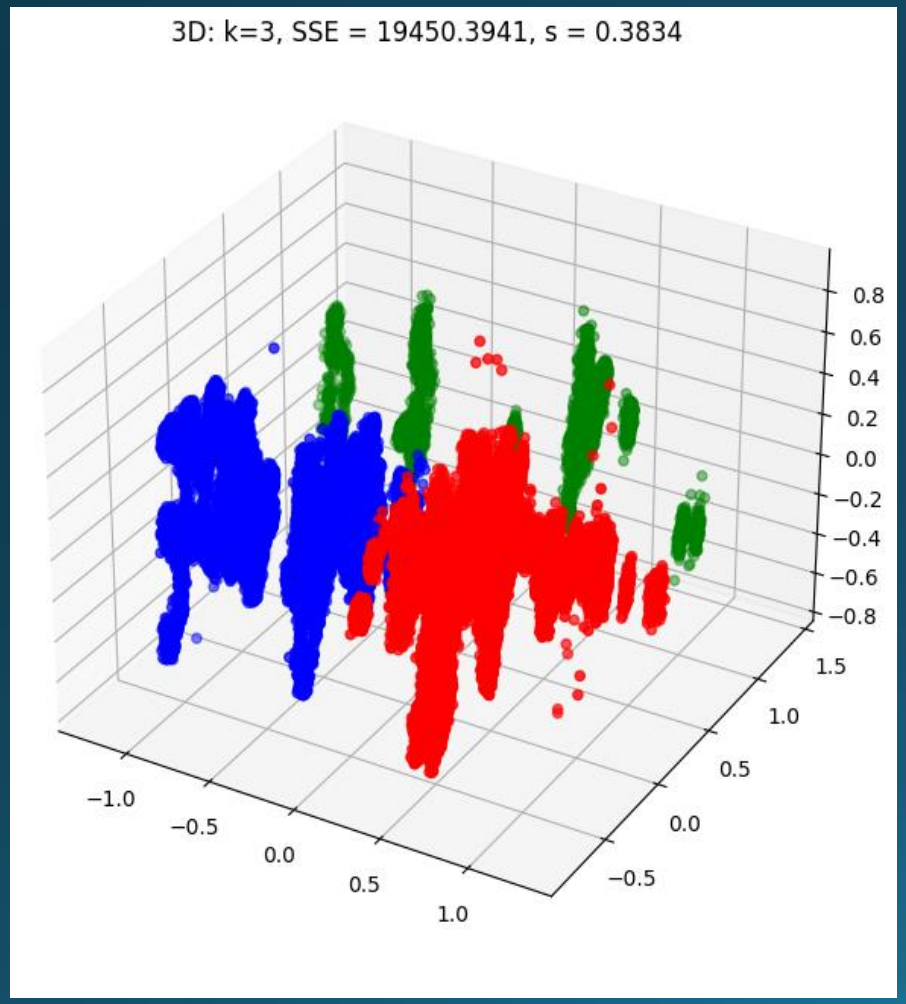
- Poređenje modela nad RFE podacima

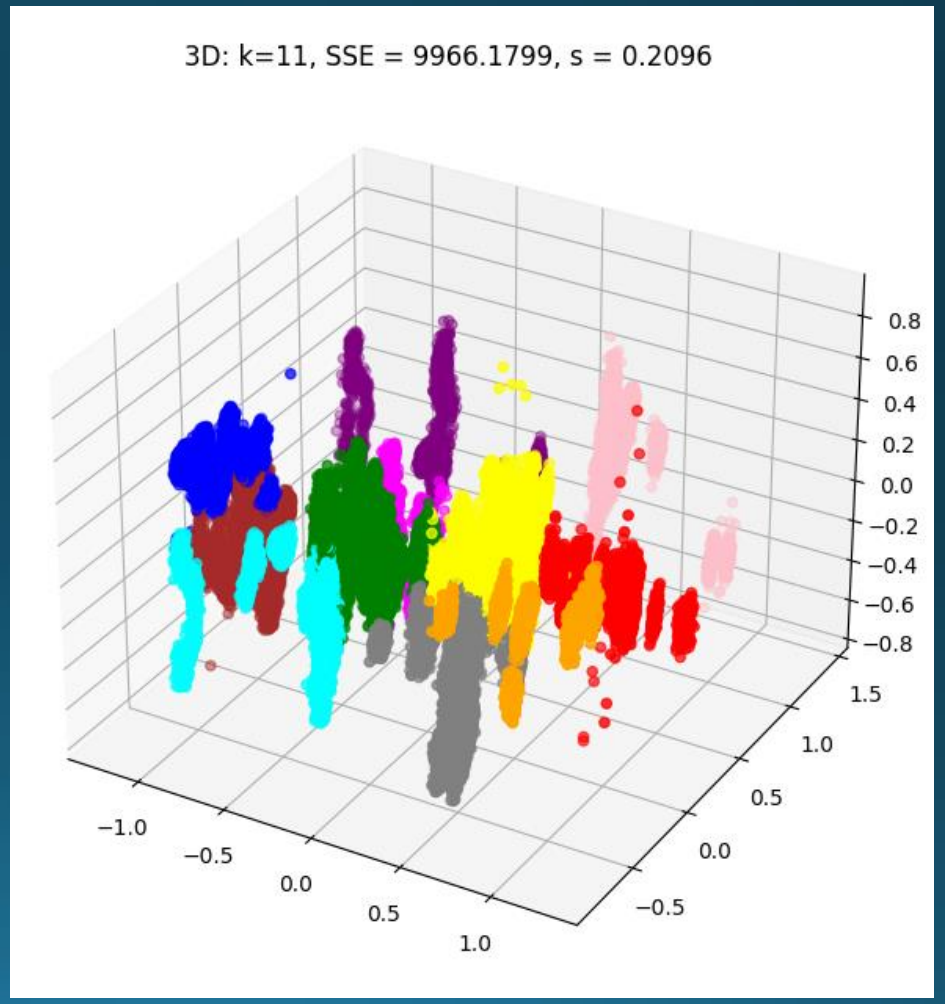


Pretprocesiranje za klasterovanje

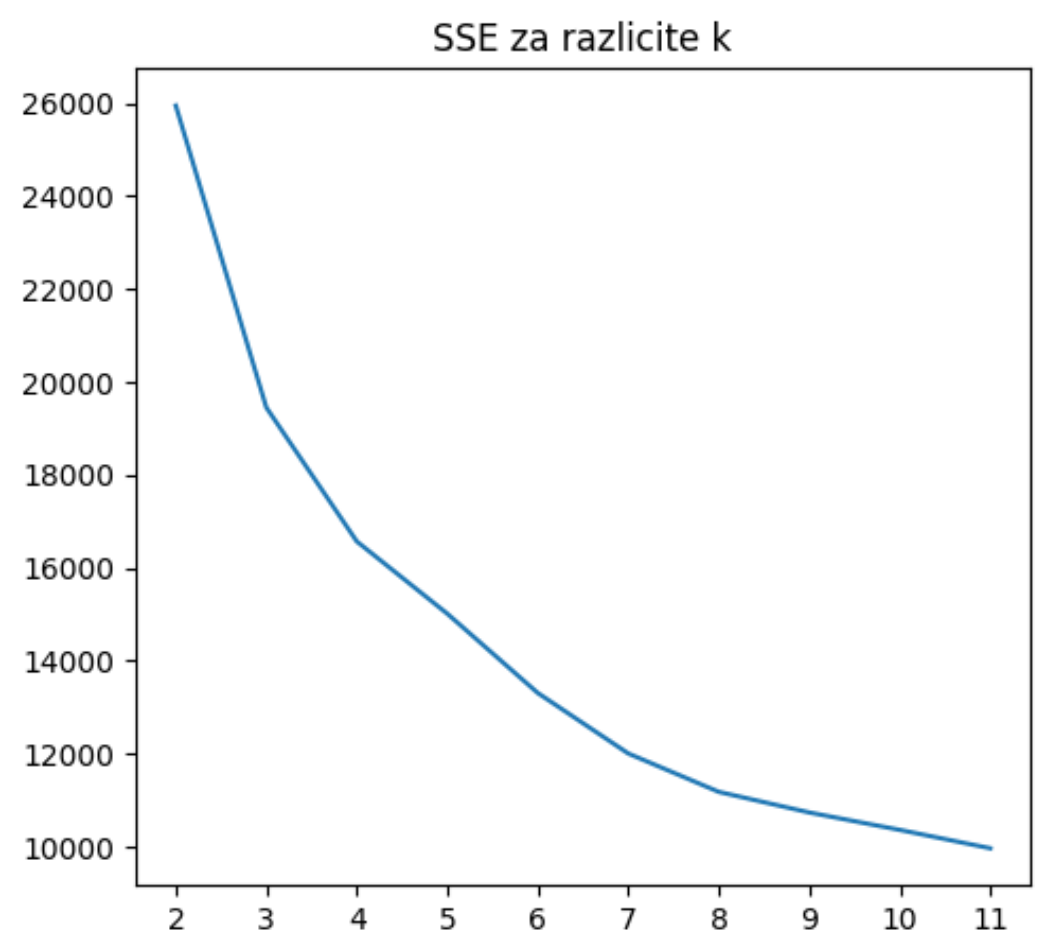


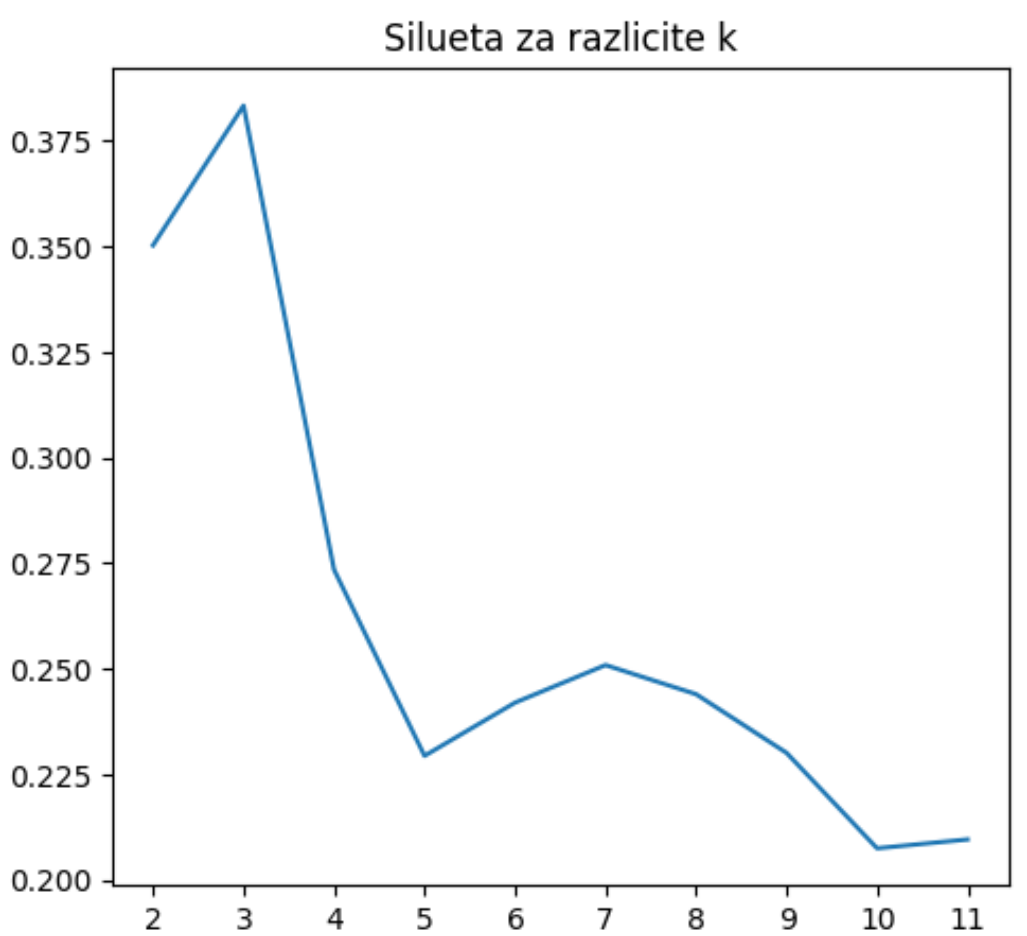
Klasterovanje – Ksredina (bez PCA)



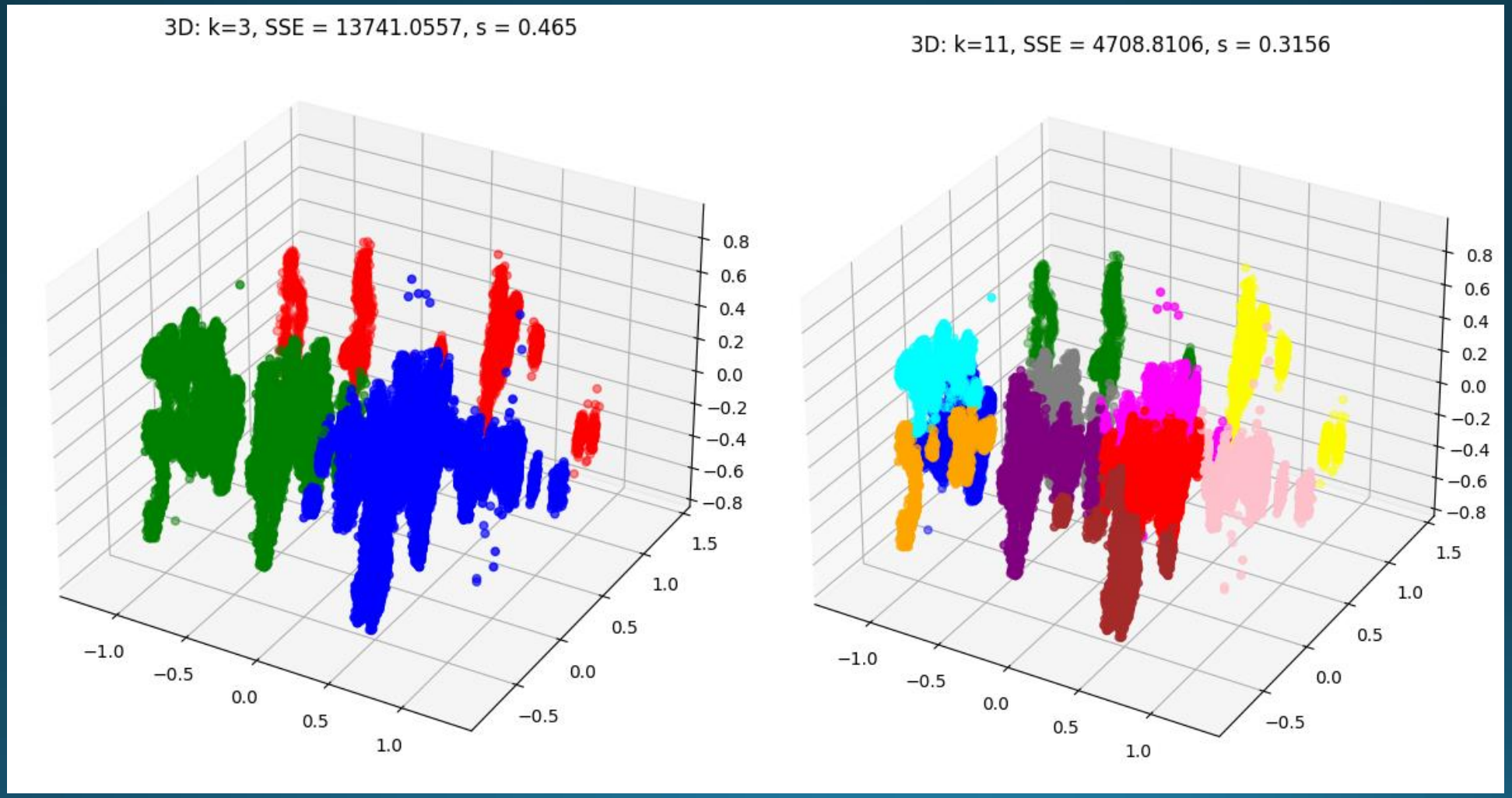


Klasterovanje – Ksredina (bez PCA)

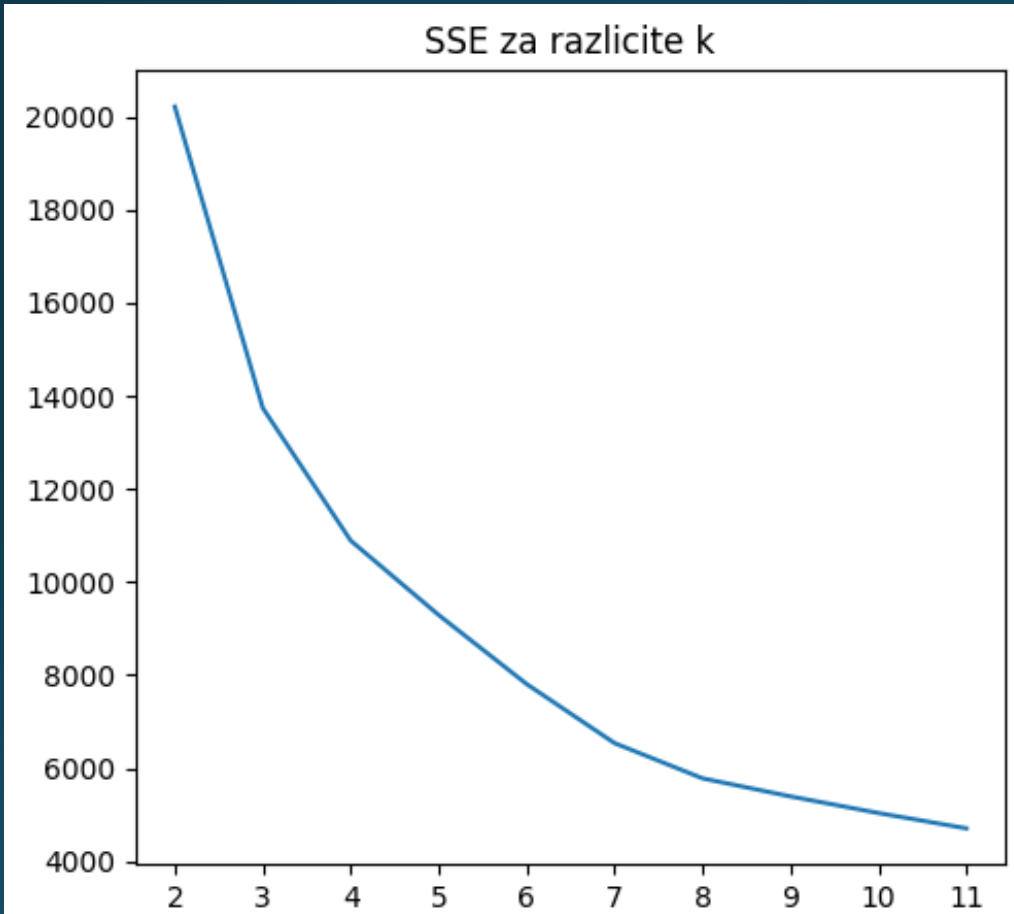


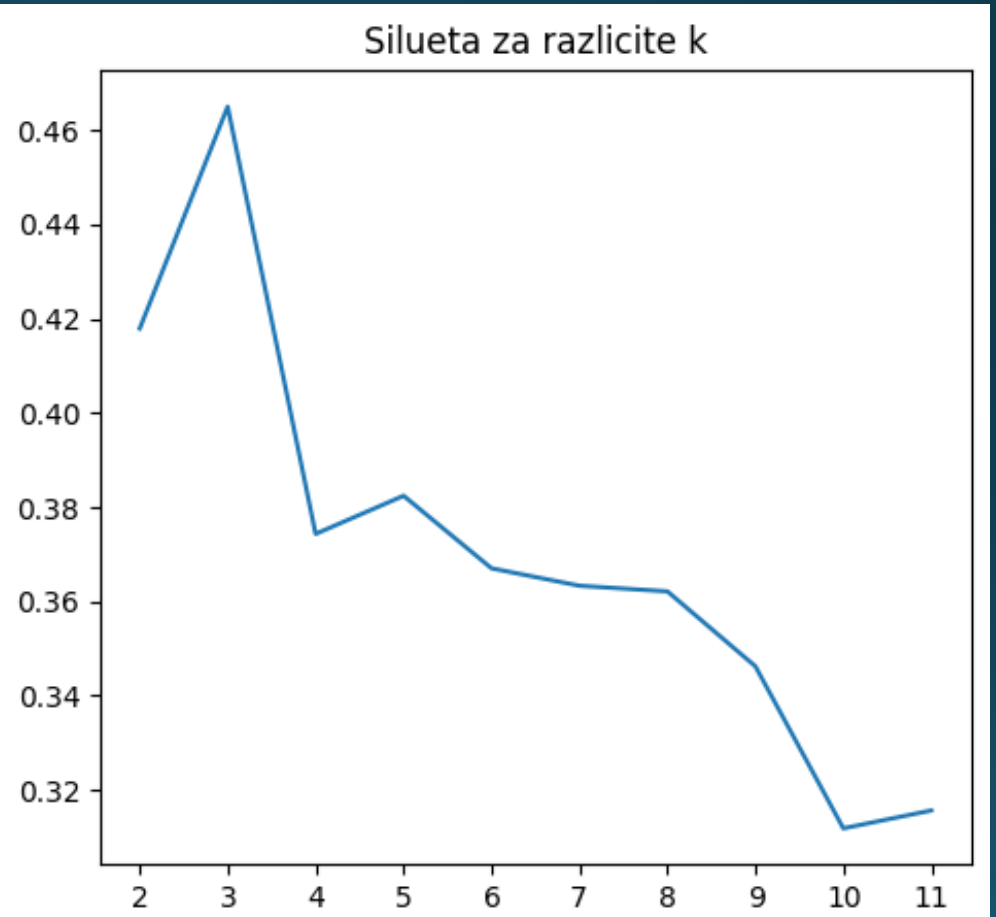


Klasterovanje – Ksredina (sa PCA)

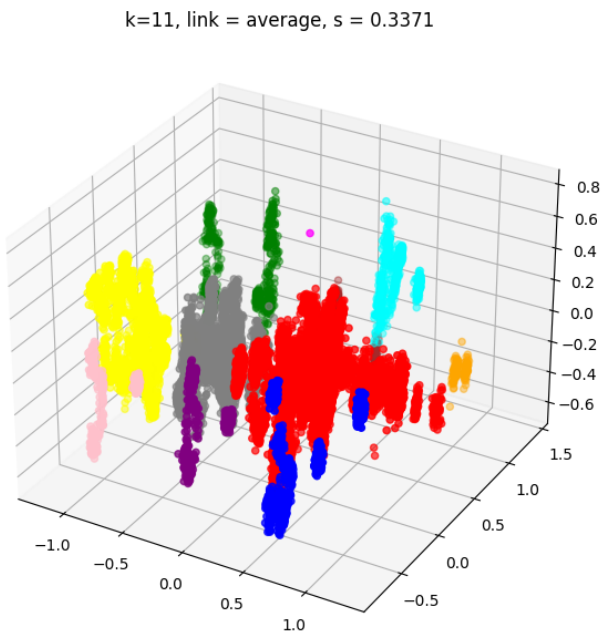


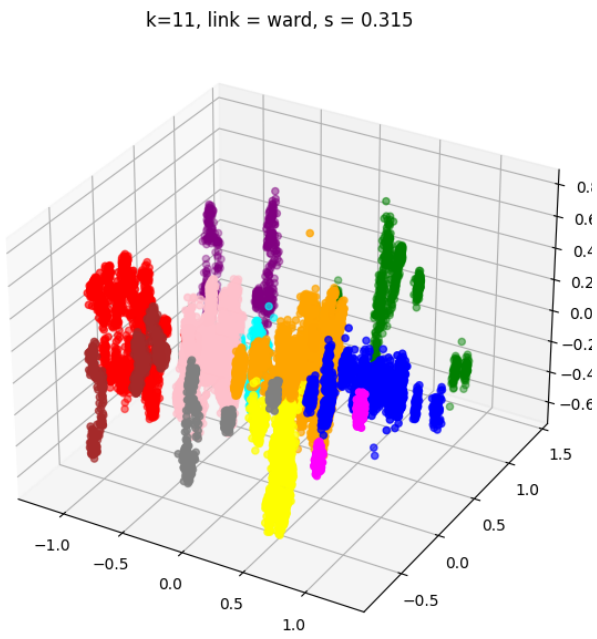
Klasterovanje – Ksredina (sa PCA)

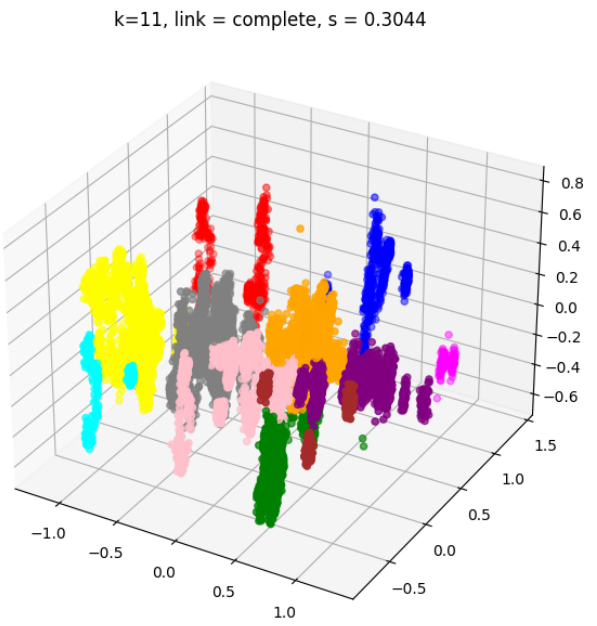


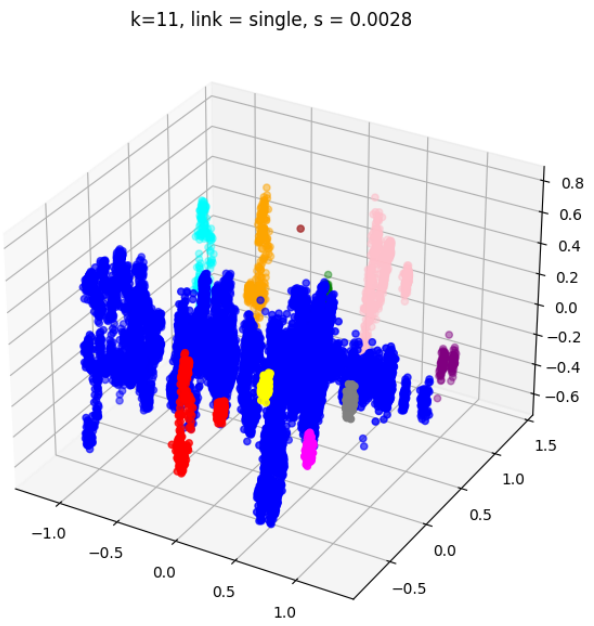


Hijerarhijsko klasterovanje

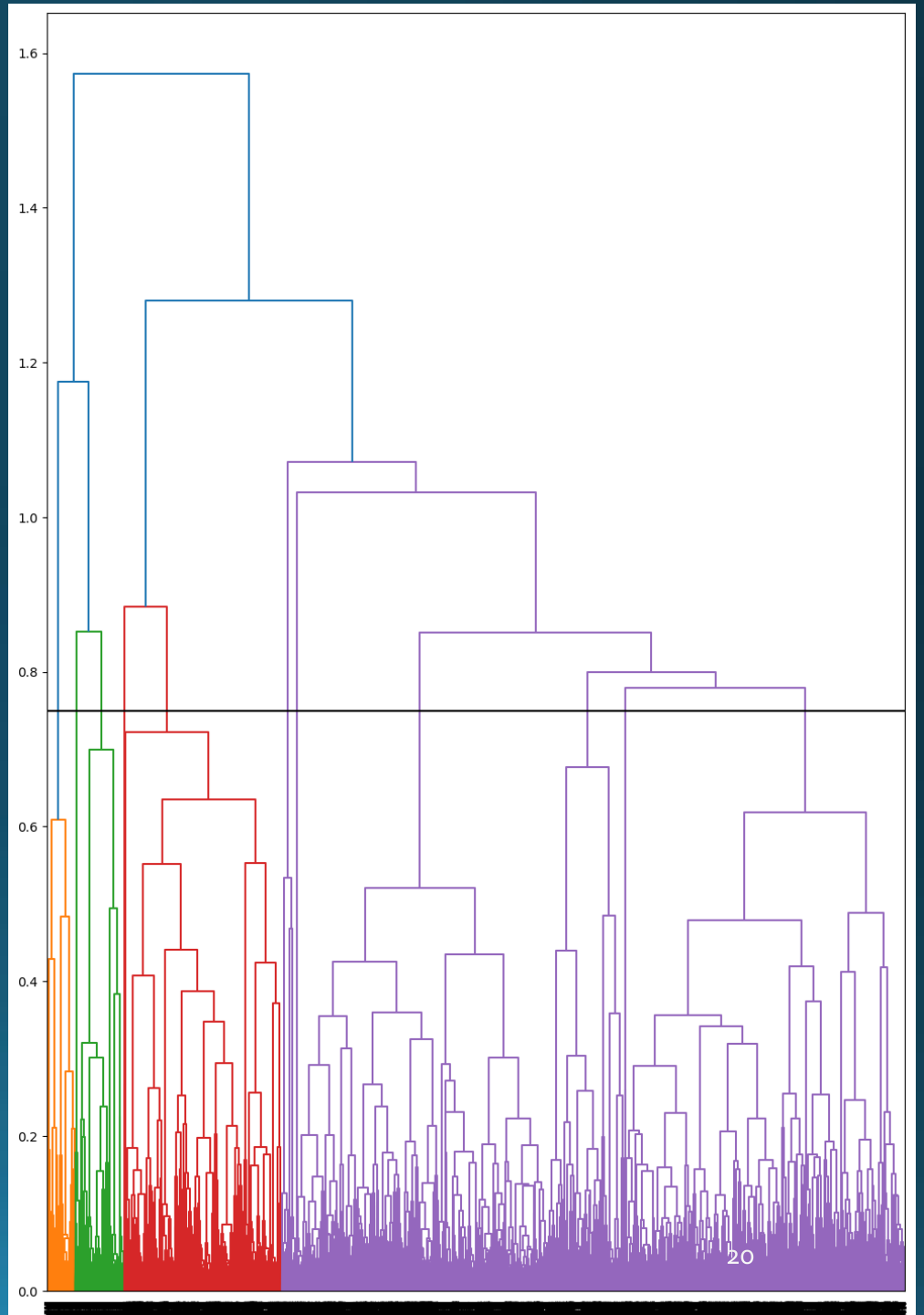




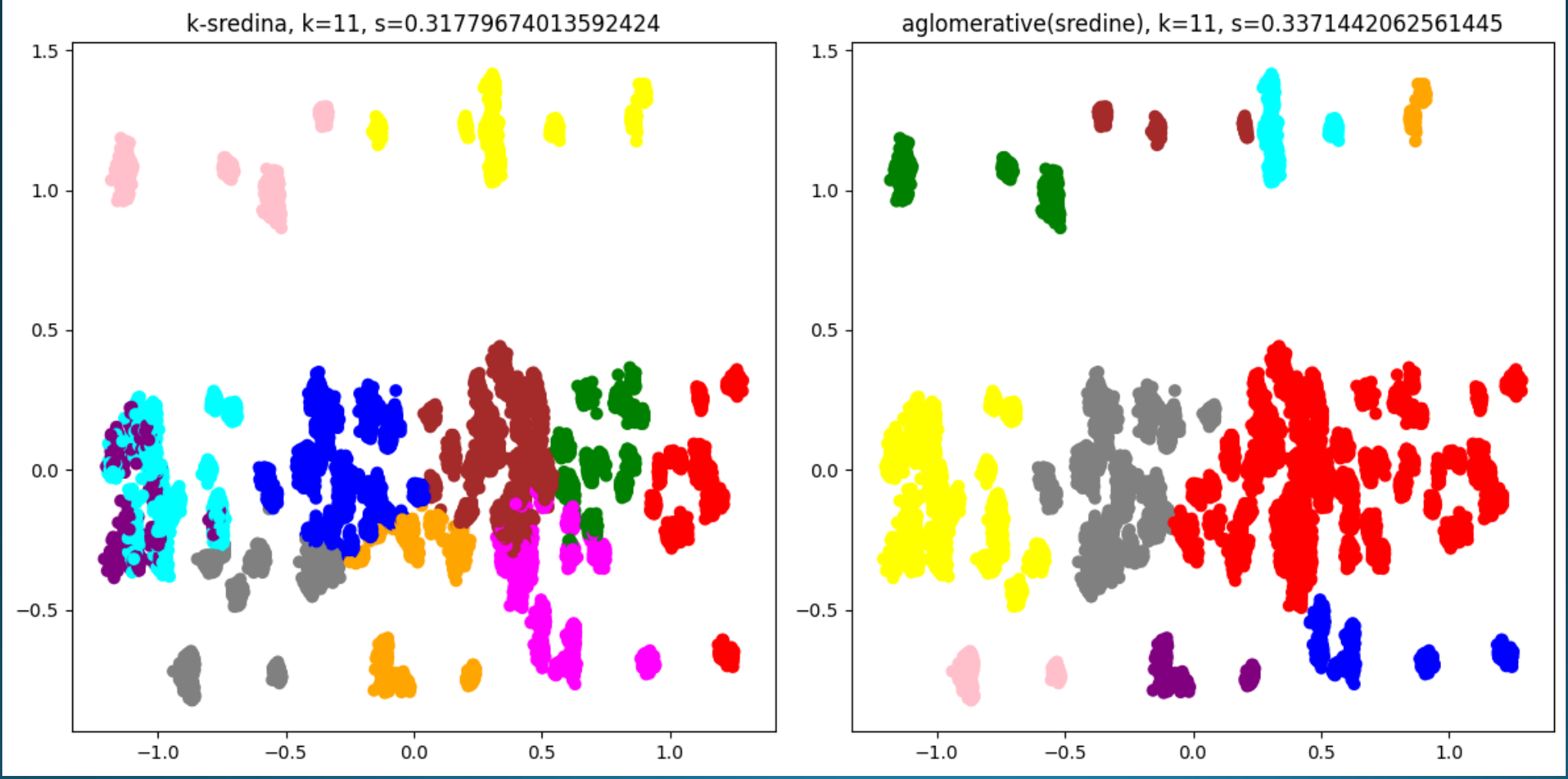




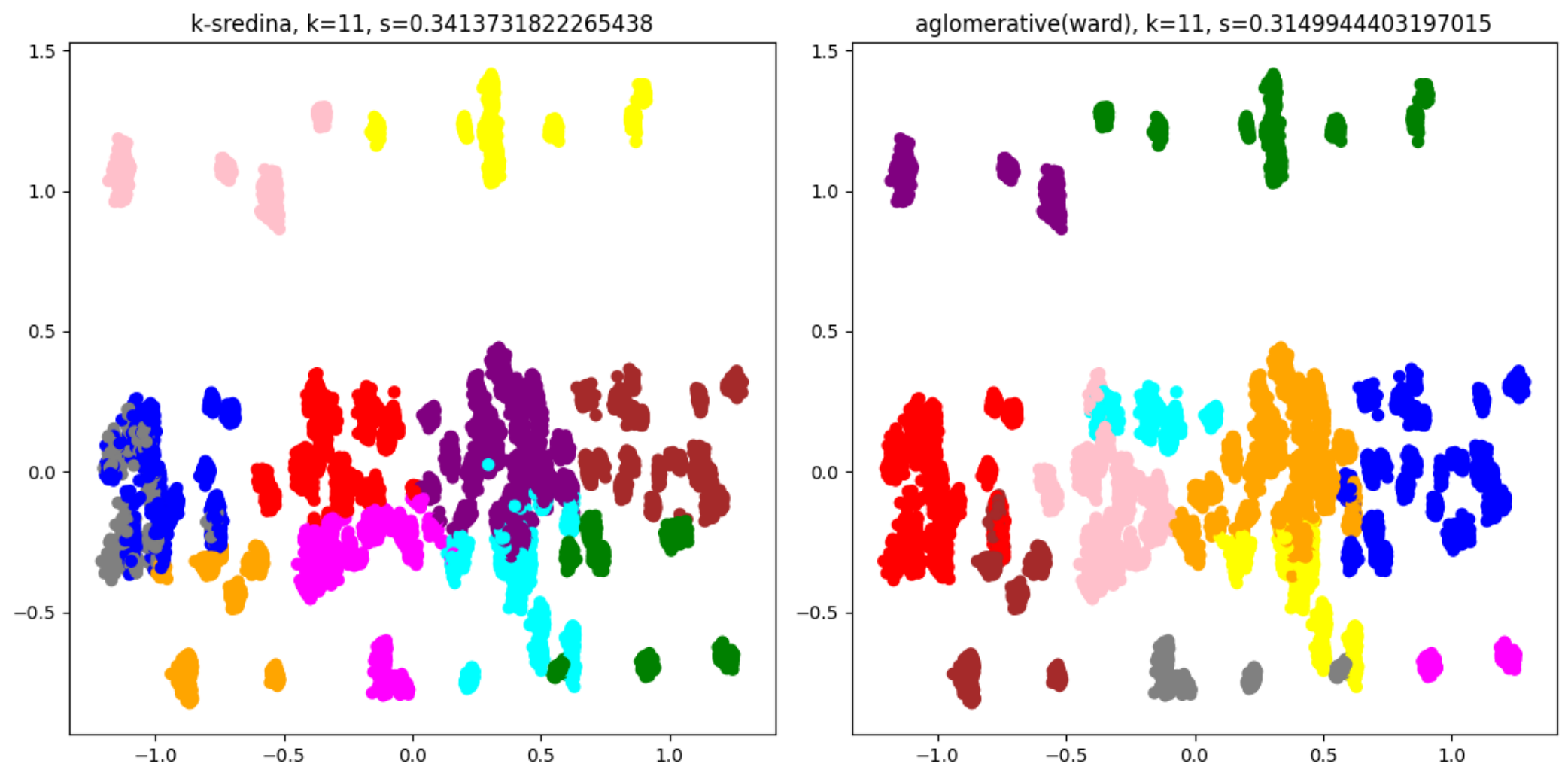
Hijerarhijsko klasterovanje - Dendogram



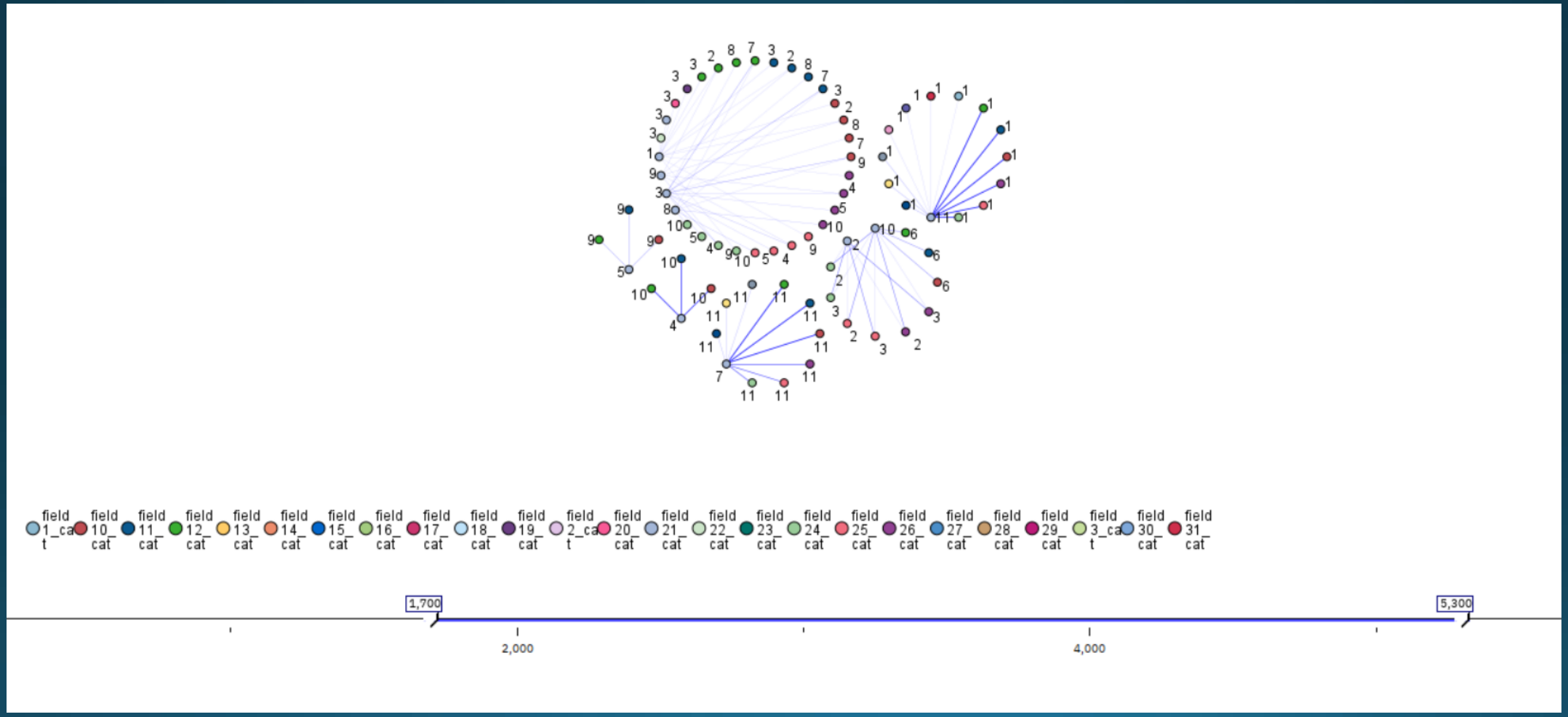
Klasterovanje - poređenja



Klasterovanje - poređenja



Pravila pridruživanja



Pravila pridruživanja (Apriori)

- 10 pravila pridruživanja sa najvećom pouzdanošću za 3 glavna atributa

Most Interesting Rules by Confidence

Rank	Rule ID	Condition	Prediction	Sorted By Confidence(%)	Other Evaluation Statistics			
					Condition Support (%)	Rule Support (%)	Lift	Deployability (%)
1	1	field12_cat = 1	field49 = 11	99,96	9,09	9,09	11,00	0,00
2	2	field10_cat = 1 field12_cat = 1	field49 = 11	99,96	9,09	9,09	11,00	0,00
3	3	field11_cat = 1 field12_cat = 1	field49 = 11	99,96	9,09	9,09	11,00	0,00
4	4	field10_cat = 1 field11_cat = 1 field12_cat = 1	field49 = 11	99,96	9,09	9,09	11,00	0,00
5	5	field10_cat = 1	field49 = 11	99,94	9,09	9,09	10,99	0,01
6	6	field11_cat = 1	field49 = 11	99,94	9,09	9,09	10,99	0,01
7	7	field10_cat = 1 field11_cat = 1	field49 = 11	99,94	9,09	9,09	10,99	0,01
8	8	field12_cat = 11	field49 = 7	99,15	9,09	9,01	10,91	0,08
9	9	field10_cat = 11 field12_cat = 11	field49 = 7	99,15	9,08	9,00	10,91	0,08
10	10	field11_cat = 11 field12_cat = 11	field49 = 7	99,15	9,08	9,00	10,91	0,08

Pravila pridruživanja (Apriori)

- 10 pravila pridruživanja sa najvećom pouzdanošću za sve atribute

Most Interesting Rules by Confidence

					Other Evaluation Statistics			
Rank	Rule ID	Condition	Prediction	Sorted By Confidence(%)	Condition Support (%)	Rule Support (%)	Lift	Deployability (%)
1	1	field7_cat = 11 field12_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
2	2	field8_cat = 11 field12_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
3	3	field7_cat = 11 field10_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
4	4	field7_cat = 11 field11_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
5	5	field8_cat = 11 field10_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
6	6	field8_cat = 11 field11_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
7	7	field7_cat = 11 field10_cat = 11 field11_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
8	8	field8_cat = 11 field10_cat = 11 field11_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
9	9	field9_cat = 11 field12_cat = 11	field49 = 7	100,00	6,75	6,75	11,00	0,00
10	10	field9_cat = 11 field10_cat = 11	field49 = 7	100,00	6,74	6,74	11,00	0,00

Hvala na pažnji!