The background of the slide is a dark, artistic composition. On the left, there are several staves of musical notation with various notes and rests. On the right, two electric guitars with a sunburst finish are visible, their bodies and f-holes clearly shown. The overall color palette is dark with warm, orange-brown highlights from the guitars and the text.

Clasificarea automată a melodiilor în genuri muzicale

Dorin – Andrei - Benjamin Miron

Conf. Dr. Liviu Ciortuz

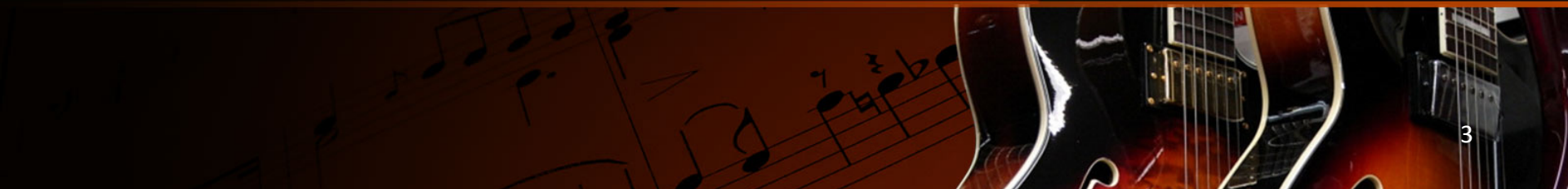


Cuprins

1.	Importanța clasificării automate a melodiilor	3
2.	Setul de date și attributele folosite	4
3.	Analiza atributelor.....	5
4.	Algoritmi folosiți	6
5.	Matrici de confuzie	7
6.	Clasificatorul expert	8
7.	Utilizarea setului de date	9
8.	Vizualizarea clasificărilor	10
9.	Concluzii.....	12

De ce este o problemă importantă?

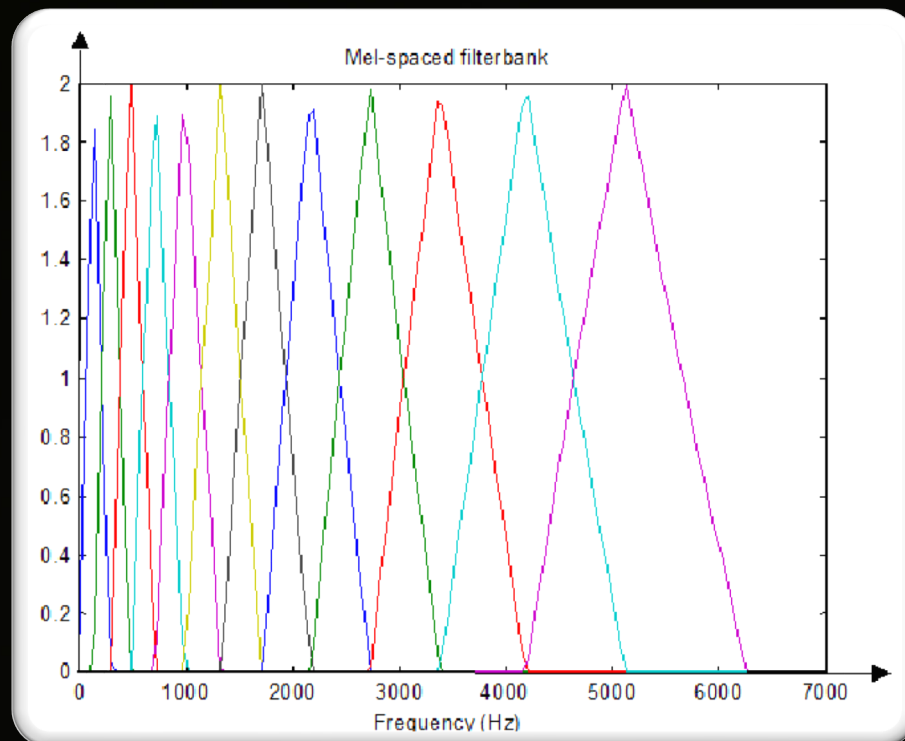
1. Studiul făcut de A. C. North și David J. Hargreaves
2. Subiectivitate



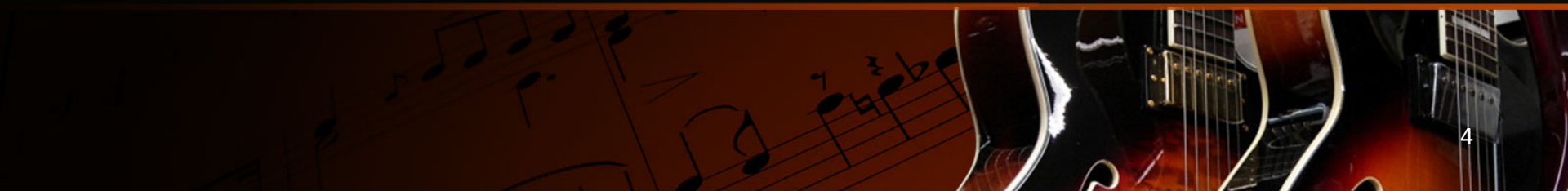
Setul de date și atributele folosite

➤ GTZAN

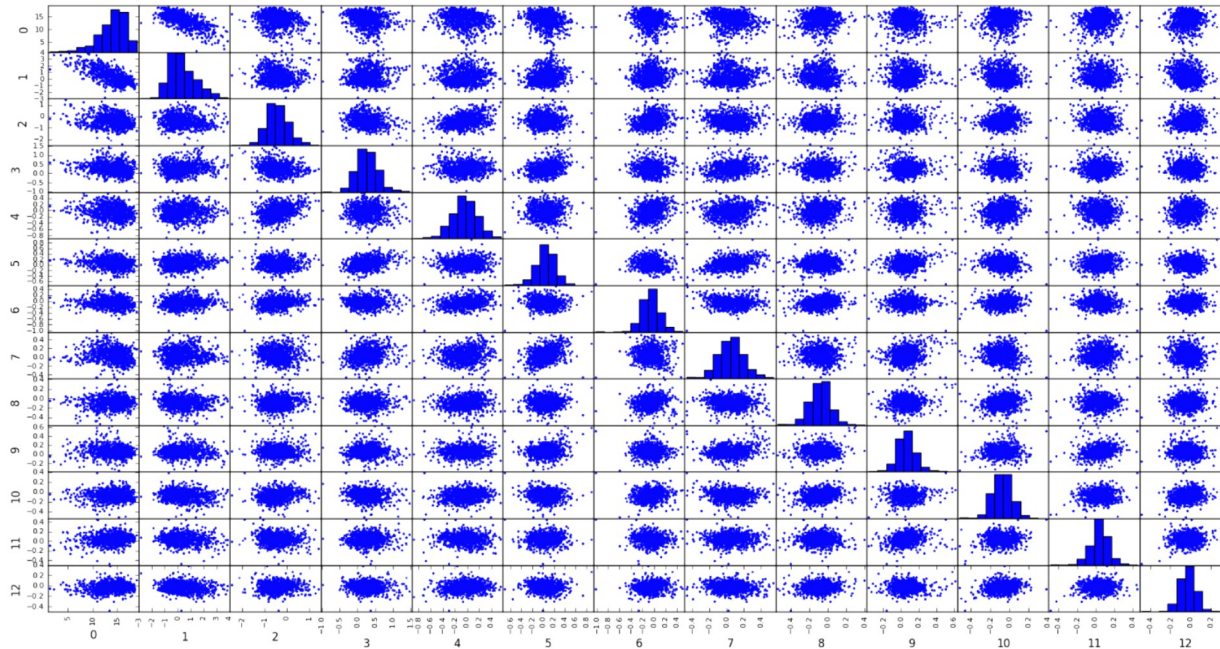
blues,	clasic,
country,	disco,
hip-hop,	jazz,
metal,	pop,
reggae,	rock



➤ Coeficienții MFCC (*Mel Frequency Coefficients*)

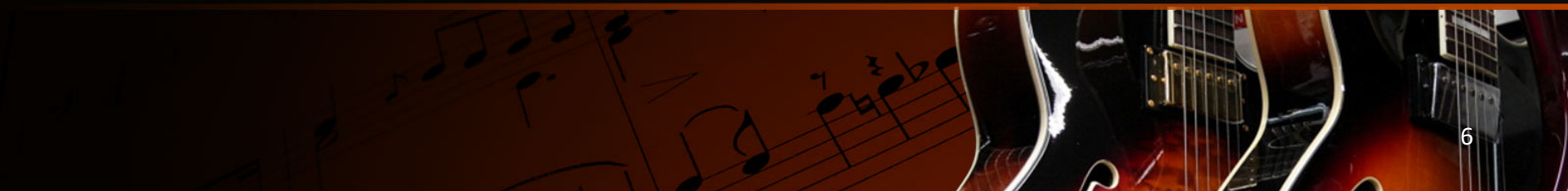


Analiza atributelor

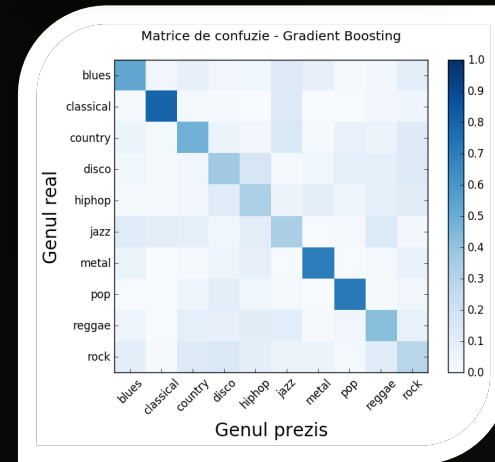
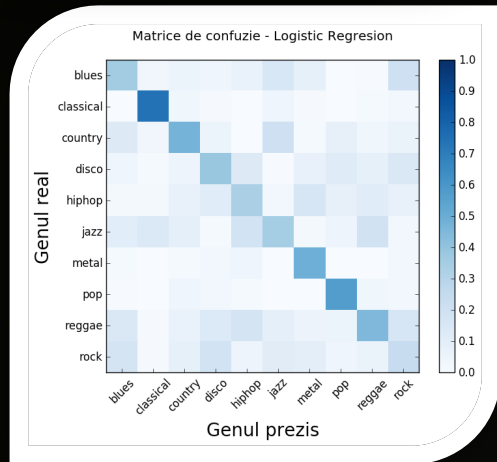
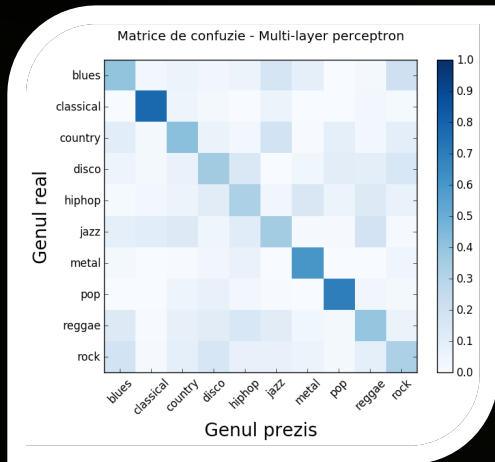
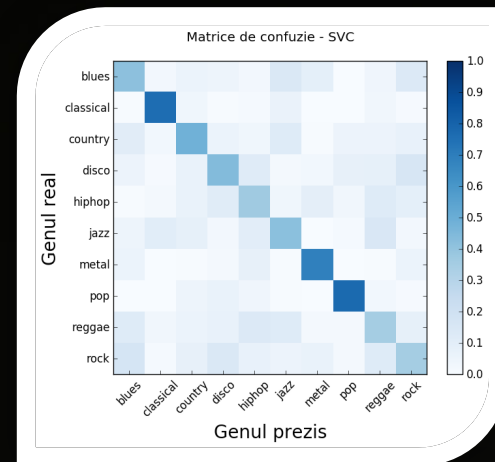
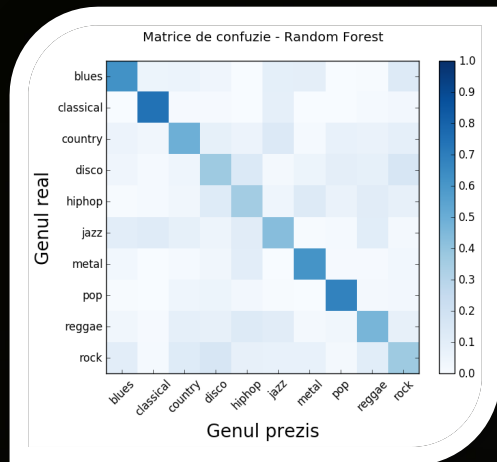
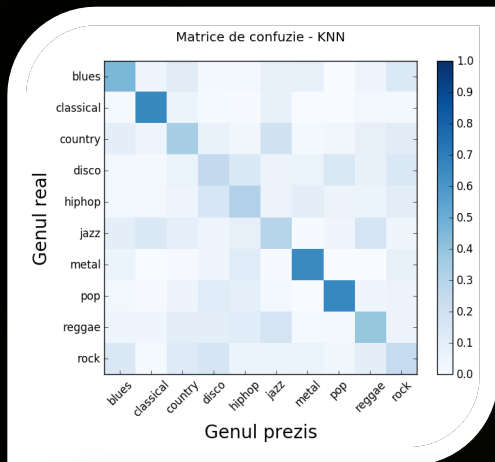


Algoritmi utilizați

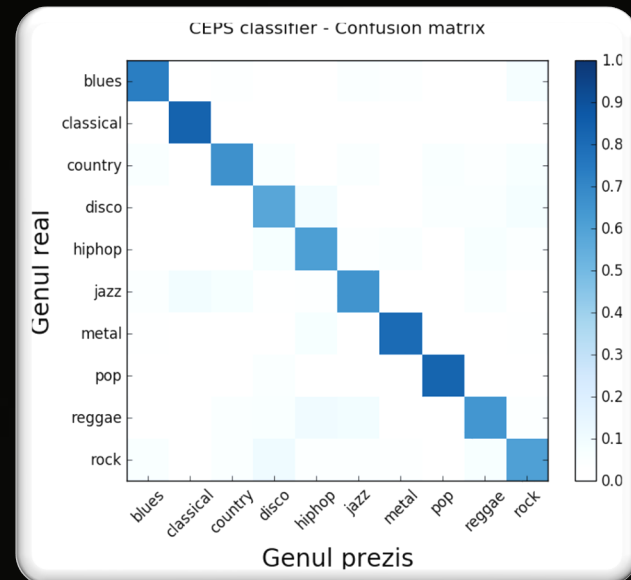
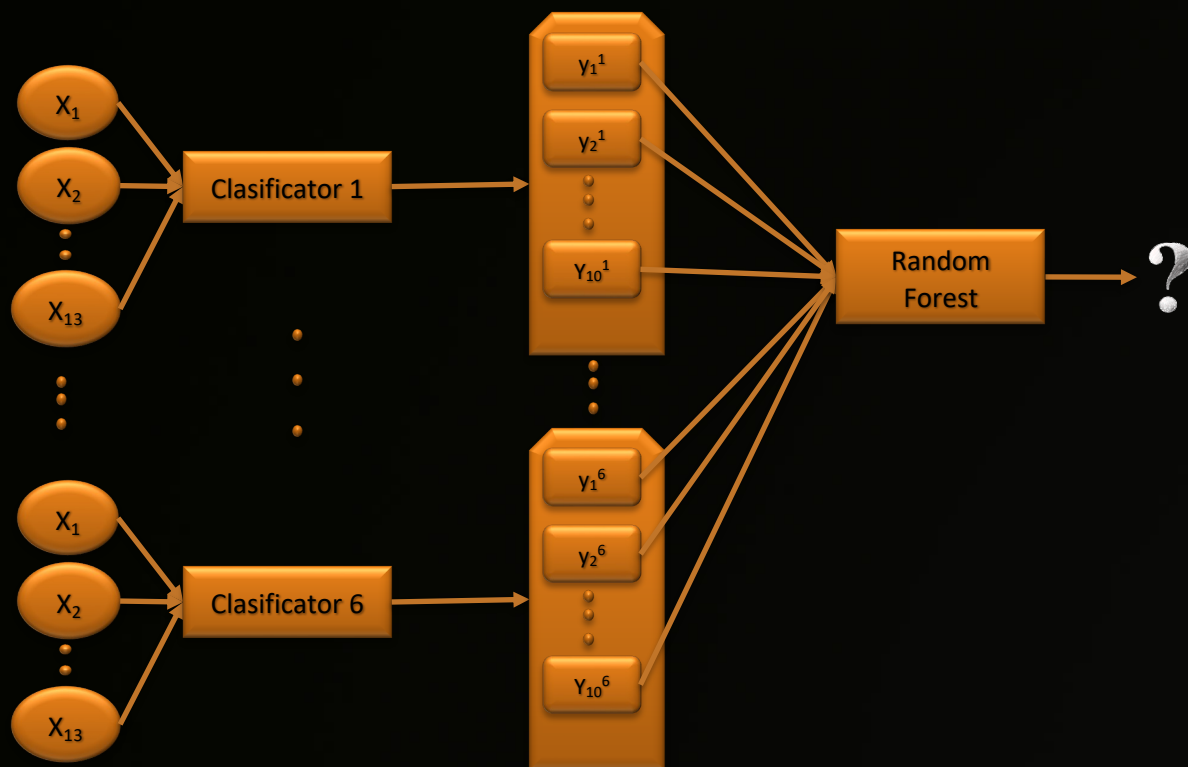
- Rețele neuronale artificiale - 50.55%
- KNN - 53.225%
- Regresie Logistică – 46.325%
- SVM - 52.05%
- Random Forest – 77.975%
- Gradient Boosting - 76.375%



Matrici de confuzie

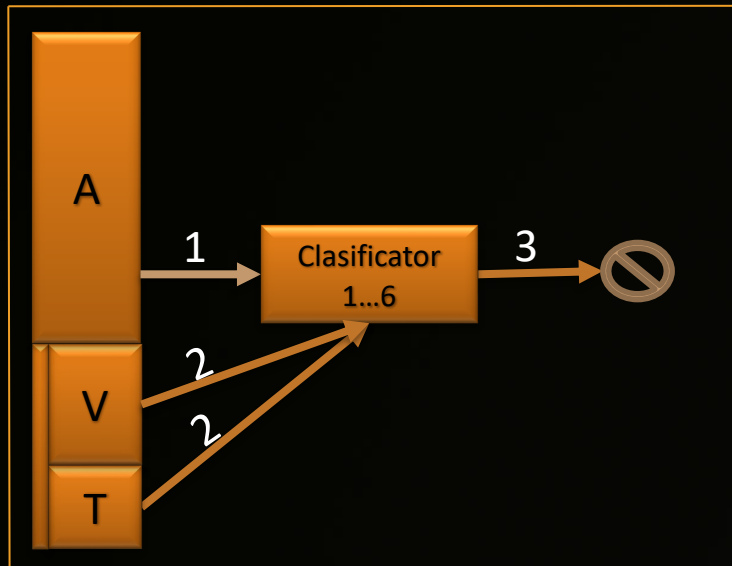


Clasificatorul expert



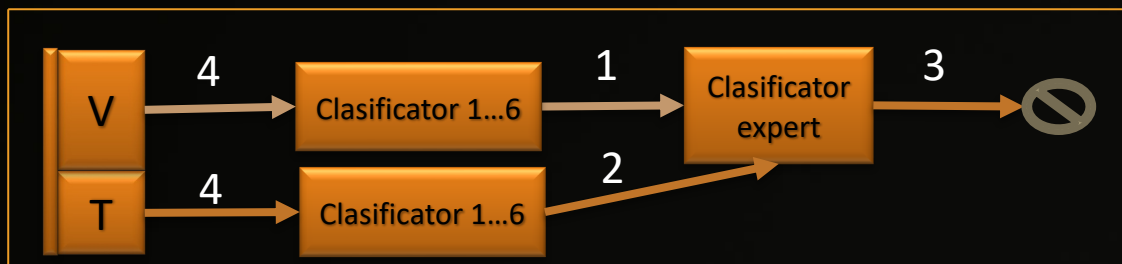
88%

Utilizarea setului de date

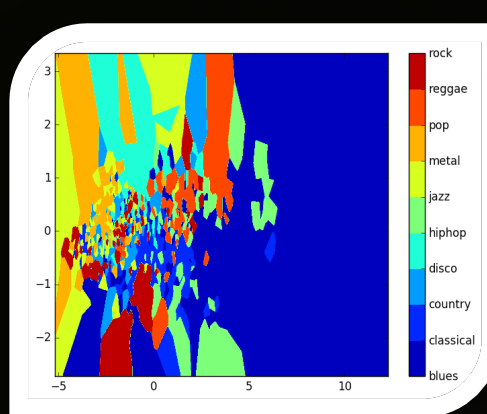
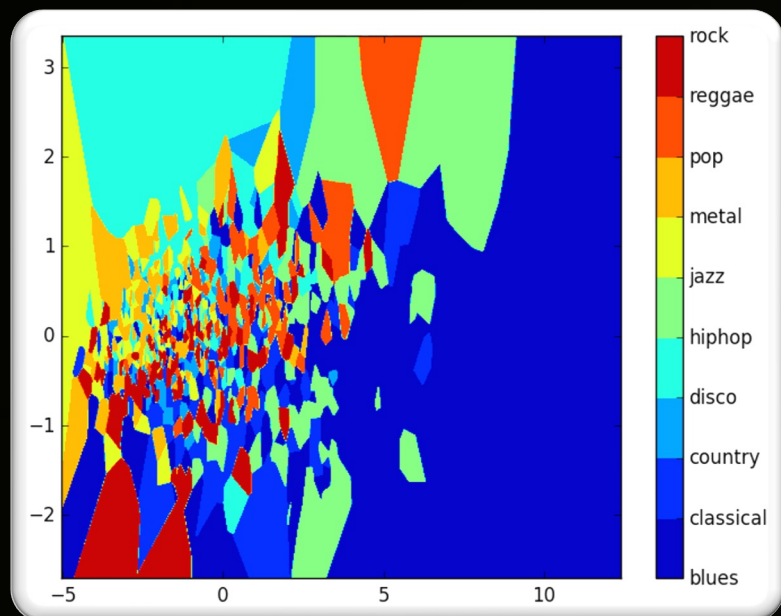


Legendă:

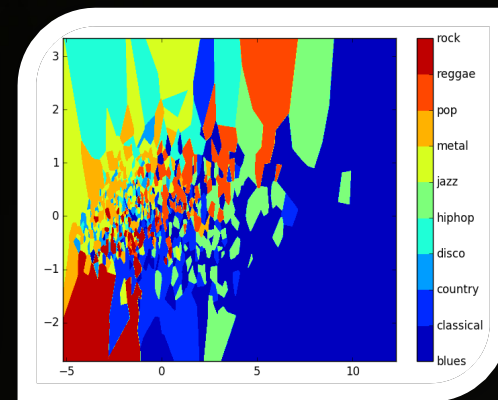
- 1. Antrenare
- 2. Testare
- 3. Generare acuratețe
- 4. Generare probabilități



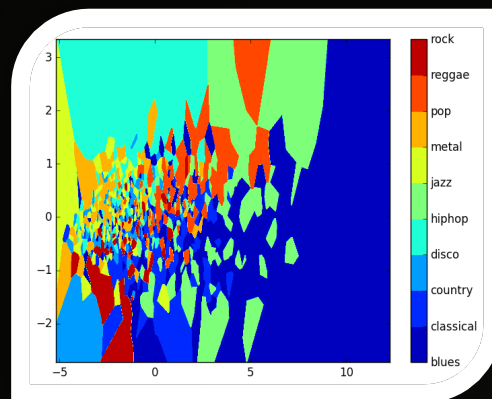
Vizualizarea clasificărilor



KNN

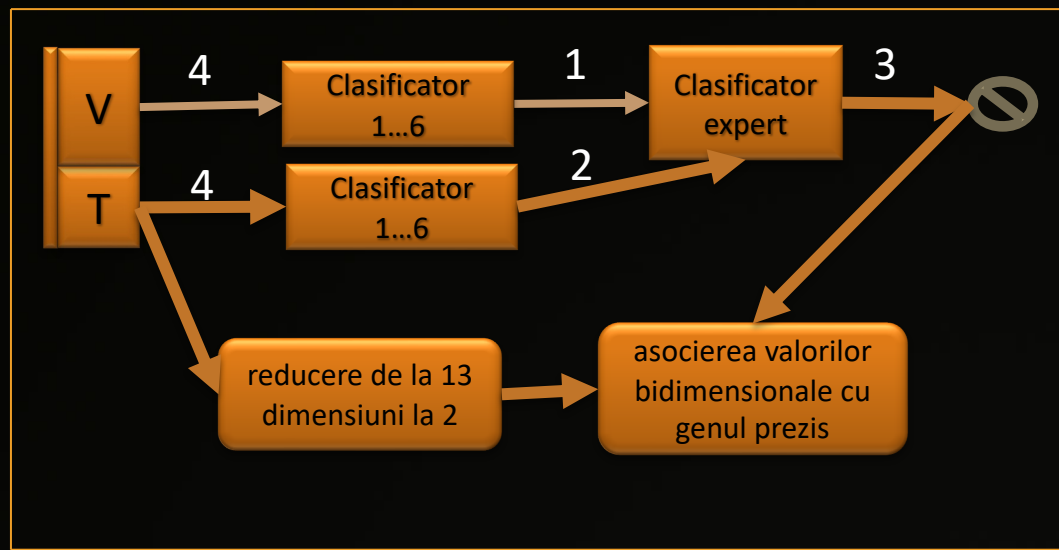
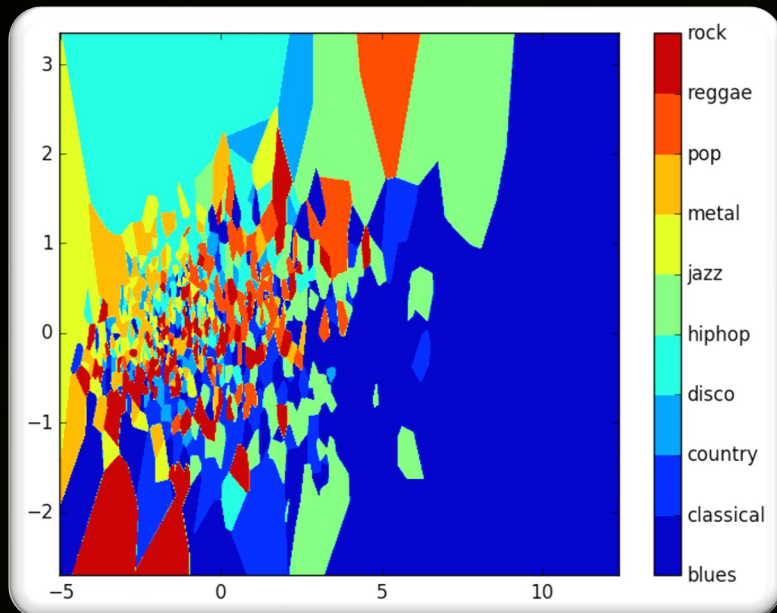


Rețele Neuronale



SVM

Vizualizarea clasificărilor





Concluzii

Acuratețe de 100% ??

DSaaS – Data Science as a Service

Mulțumesc

demo?

