Raport tema ISIA

Baza de date: Benzi Cilindrice - <https://archive.ics.uci.edu/dataset/32/cylinder+bands>

Benzile Cilindrice sunt folosit în inducerea arborelui decizional pentru atenuarea întârzierilor de process.

Instante: 512

Atribute: 39

Caracter atribute: Categorical, Integer, Real

Ca si lbrarii am folosit: sklearn,numpy,random

Am impartit datele de train si datele de test, 75% - train 25% - test.

Am calculate performanta cu ajutorul SVM – Masina cu Vectori Suport

Am variat Cost-ul pentru a calcula acuratetea.

Am inceput prin citirea datelor. Am transformat matricea intr-o linie. Am inlocit in baza de date urmatoarele:

39. Band = 1 Noband = 0

1. Am scos prima coloana(timestamp)

2. Am scos a doua coloanal(cylinder number)

3. Am scos a treuia linie (customer)

4.Am scos a patra linie (job number)

5. grain screened: yes = 1, no = 0

6. ink color: nominal; key = 1, type = 0

7. proof on ctd ink: nominal; yes = 1 , no = 0

8. blade mfg: nominal; benton = 0, daetwyler = 1, uddeholm = 2

9. cylinder division: nominal; gallatin = 0, warsaw = 1, mattoon =2

10. paper type: nominal; uncoated = 0, coated = 1, super = 2

11. ink type: nominal; uncoated = 0, coated = 1, cover = 3

12. direct steam: nominal; use; yes = 1, no = 0\*

13. solvent type: nominal; xylol = 0, lactol = 1, naptha = 2, line = 3

14. type on cylinder: nominal; yes = 1, no = 0

15. press type: nominal; use; 70 wood hoe = 0, 70 motter = 2, 70 albert=3, 94 motter=1

18. cylinder size: nominal; catalog=0, Spiegel=1, tabloid=2

19. paper mill location: nominal; north us=0, south us=4, Canadian=1, Scandanavian=2, mid European=3

In continuare am inlocuit cele 1000 de “?” cu valori respective fiecarui atribuit.

Am format x – atributele(fara primele 4 coloane si fara ultima) , y – etichete.(ultima coloana)

Dupa am semparat datele de train si de test. In continuare am calculate acuratetea, varind costul.

|  |  |
| --- | --- |
| Cost | Acuratete |
| 2-5 | 0.5234375 |
| 2-4 | 0.53125 |
| 2-3 | 0.5 |
| 2-2 | 0.484375 |
| 2-1 | 0.5 |
| 20 | 0.4609375 |
| 21 | 0.4921875 |
| 22 | 0.46875 |
| 23 | 0.453125 |
| 24 | 0.4296875 |
| 25 | 0.453125 |
| 26 | 0.4453125 |
| 27 | 0.515625 |