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Relazione completa sul Progetto di  
Big Data Analytics & Machine Learning:  
Analisi di Regressione su dati di  
combustione di campioni di biomassa

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## Introduzione

Nel nostro progetto ci occupiamo di sviluppare dei modelli di predizione su un dataset relativo a misure svolte su campioni di biomassa prelevati da centrali elettriche che usano la biomassa come carburante.

### Spiegazione Dataset

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
1	ID Campione	CENTRALE	INFO	MATERIALE	GRUPPO ISO	Data Ricevimento	Umidità (%)	PCN (µg t <sub>q</sub> )	Ceneri (%) s.s.)	PCS (µg s.s.)	PCI (µg s.s.)	Carbonio (%) s.s.)	Idrogeno (%) s.s.)	Azoto (%) s.s.)	Ossigeno (%) s.s.)	Cloro (%) s.s.)	Zolfo (%) s.s.)	Umidità di correzione (%) ad.)
5179	G0603	MA	Cippato legnoso leg LEGNO		1	04/06/2021	38,8	9.840	2,7	18.836	17.620		0,1		0,14	0,00	6,89	
5180	G0604	MA	Cippato legnoso leg LEGNO		1	04/06/2021	42,1	9.423	3,1	19.263	18.052		0,1		0,09	0,01	7,48	
5181	G0605	MA	Cippato legnoso leg LEGNO		1	04/06/2021	36,6	10.597	4,3	19.313	18.115		0,2		0,11	0,03	8,27	
5182	G0606	MA	Cippato legnoso leg LEGNO		1	04/06/2021	33,6	11.244	4,1	19.402	18.165	49,1	5,7	0,4	40,64	0,06	7,19	
5183	G0612	SP	Cippato LEGNO		1	07/06/2021	29,5	12.198	2,7	19.577	18.334	50,7	5,7	0,2	40,63	0,01	8,54	
5184	G0613	SP	Cippato LEGNO		1	09/06/2021	25,5	12.795	3,8	19.220	18.011	49,4	5,5	0,2	41,06	0,01	6,19	
5185	G0619	FE	Cippato legnoso LEGNO		1	10/06/2021	34,5	11.222	4,7	19.668	18.404	48,9	5,8	0,3	40,34	0,00	1,38	
5186	G0620	FE	macinato di frutta leg LEGNO		1	10/06/2021	36,0	10.311	5,5	18.650	17.471	47,9	5,4	0,3	40,80	0,00	1,68	
5187	G0623	FE	Cippato legnoso LEGNO		1	10/06/2021	42,1	8.832	13,2	18.191	17.032	46,0	5,3	0,3	34,96	0,00	1,36	
5188	G0625	FE	Cippato legnoso LEGNO		1	10/06/2021	43,7	9.109	6	19.322	18.078	49,3	5,7	0,3	38,90	0,00	2,44	
5189	G0626	FE	macinato di frutta leg LEGNO		1	10/06/2021	42,0	8.125	14	16.964	15.791	46,5	5,4	0,4	33,66	0,00	1,54	
5190	G0627	FE	macinato di frutta leg LEGNO		1	10/06/2021	33,0	12.733	5	21.413	20.205	48,5	5,5	0,4	40,47	0,00	1,42	
5191	G0629	FE	Cippato legnoso LEGNO		1	10/06/2021	38,6	10.406	4	19.733	18.482	49,8	5,7	0,2	39,95	0,01	2,34	
5192	G0632	FE	Cippato legnoso LEGNO		1	10/06/2021	37,2	10.494	5	19.384	18.172	48,0	5,6	0,4	40,69	0,00	1,34	
5193	G0639	FE	Cippato legnoso LEGNO		1	10/06/2021	39,0	10.226	4	19.510	18.318						1,49	
5194	G0645	FE	macinato di frutta leg LEGNO		1	10/06/2021	22,9	13.761	5	19.759	18.573						1,58	
5195	G0650	FE	Cippato legnoso LEGNO		1	10/06/2021	38,3	10.199	2	19.329	18.062	48,8	5,8	0,1	42,89	0,00	1,50	
5196	G0655	FE	Mix erbaceo cippato MIX	5	10/06/2021	28,2	11.545	9	18.231	17.046							2,31	
5197	G0656	FE	Mix erbaceo cippato MIX	5	10/06/2021	28,5	11.585	8	18.299	17.180							1,96	
5198	G0663	SP	Cippato LEGNO	1	15/06/2021	16,2	14.508	4,0	19.001	17.780	48,8	5,6	0,4	41,11	0,02	5,19		
5199	G0664	SP	Cippato LEGNO	1	16/06/2021	23,8	13.437	5,5	19.616	18.407	49,9	5,5	0,4	38,68	0,03	9,42		
5200	G0665	FE	macinato di frutta leg LEGNO		1	16/06/2021	24,8	13.340	5	19.735	18.548	48,7	5,4	0,3	40,69	0,00	2,79	
5201	G0667	FE	Cippato legnoso LEGNO		1	16/06/2021	33,5	11.015	5,3	19.021	17.800	48,7	5,6	0,2	40,18	0,01	3,62	
5202	G0669	FE	Cippato legnoso LEGNO		1	16/06/2021	43,4	9.487	1,0	19.895	18.635	50,4	5,8	0,1	42,68	0,00	3,23	
5203	G0680	FE	Cippato legnoso LEGNO		1	16/06/2021	41,2	9.936	0,7	19.855	18.620						2,54	
5204	G0684	FE	macinato di frutta leg LEGNO		1	16/06/2021	27,3	12.442	2,4	19.217	18.025	49,5	5,5	0,4	42,12	0,00	3,73	
5205	G0687	FE	Cippato legnoso LEGNO		1	16/06/2021	32,6	11.149	6,6	18.908	17.720	48,2	5,4	0,1	39,56	0,00	3,68	
5206	G0696	FE	Cippato legnoso LEGNO		1	16/06/2021	42,1	9.590	2,9	19.576	18.332	50,6	5,7	0,2	40,62	0,00	3,27	
5207	G0700	FE	Cippato legnoso LEGNO		1	16/06/2021	40,3	10.167	1,2	19.914	18.685						3,18	
S309	G0702	FE	Cinnato legnoso LEGNO	1	16/06/2021	26,7	10.507	2,7	19.312	18.001							4,07	

Il dataset utilizzato è un foglio in formato Excel (.xlsx) composto da 5217 record (righe) relativi alle singole misurazioni effettuate in laboratorio e dai seguenti 18 attributi (colonne), in elenco, corrispondenti ai vari parametri misurati durante ciascuna combustione:

- ID CAMPIONE
- CENTRALE
- INFO: campo descrittivo
- MATERIALE: descrive la tipologia di biomassa
- GRUPPO ISO: raggruppa diversi materiali
- DATA RICEVIMENTO: campo descrittivo
- UMIDITA'
- PCN
- CENERI
- PCS
- PCI
- CARBONIO
- IDROGENO
- AZOTO
- OSSIGENO
- CLORO
- ZOLFO
- UMIDITA' DI CORREZIONE

## Obiettivi

Il nostro progetto si propone di raggiungere i 3 seguenti Goal:

1. dato il valore della feature CENERI predire per ogni materiale i valori di PCS, PCI, Azoto, Cloro e Zolfo [quindi un modello di regressione per ogni materiale e per ognuna delle 5 feature indicate].
2. dati i valori delle feature CENERI, CARBONIO, IDROGENO E AZOTO, per ogni materiale predire i valori di PCS, PCI, CLORO e ZOLFO [anche in questo caso diversi modelli di regressione].
3. date tutte le feature relative a misure, per ogni materiale predire i valori di PCS, PCI, CLORO e ZOLFO.

Con l'obiettivo finale di individuare i modelli di predizione che restituiscano, per ognuno dei Goal, i risultati migliori, secondo le misure di **“Root Mean Squared Error” (“RMSE”)** e **relativa varianza (standard deviation)**. (si veda il punto 6b della sezione “Implementazione”).

## Algoritmi per l'analisi

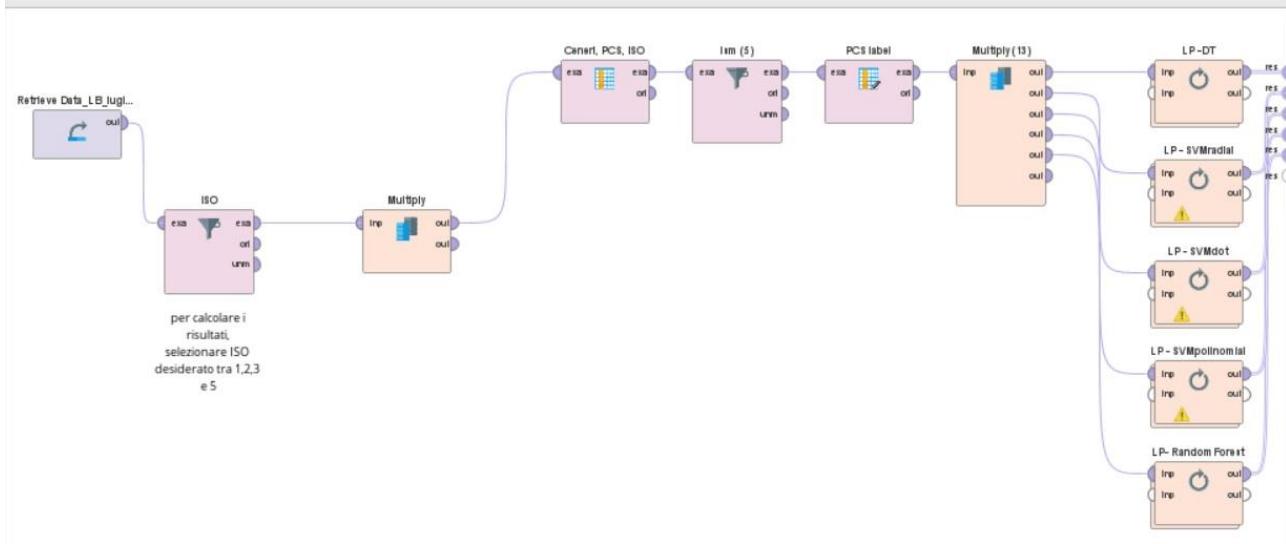
Si è optato per l'utilizzo degli algoritmi:

- **Decision Tree;**
- **Random Forest;**
- **SVMdot;**
- **SVMradial;**
- **SVMpolynomial;**

con generazione del modello di predizione tramite addestramento basato su X-Fold Cross Validation, su cui sono stati utilizzati 10 Folds.

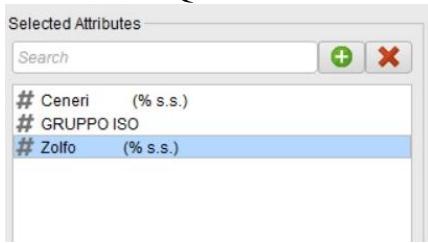
## Implementazione

Per raggiungere gli obiettivi richiesti, a partire dal dataset a disposizione, è stato utilizzato il software “Rapid Miner Studio”, abbiamo implementato 3 processi, ciascuno relativo rispettivamente ai Goal descritti precedentemente. Ognuno dei 3 processi è strutturato come segue:



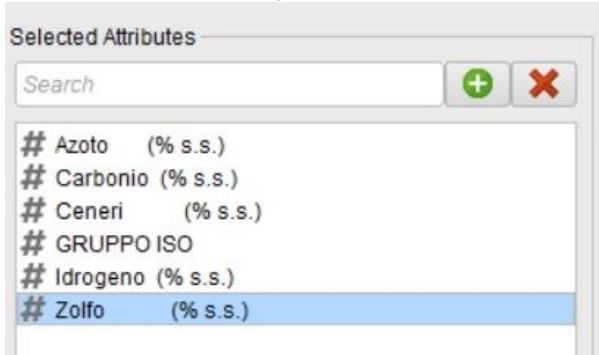
1. A partire dal dataset fornito in input, si è effettuato un primo filtraggio dei dati considerando la colonna “GRUPPO ISO” invece di quella “MATERIALE” poiché, avendo osservato che ciascun gruppo ISO (ISO1, ISO2, ISO3, ISO5) racchiude più materiali con caratteristiche simili, in questo modo si sono ottenuti dei training set più ampi, rendendo i risultati di analisi più attendibili. Tale filtraggio è stato realizzato tramite un modulo “Filter Example” unico per ogni processo, in cui è sufficiente cambiare il valore dell’ISO d’interesse per effettuare le relative analisi. I dati del dataset così filtrato vengono poi indirizzati, attraverso un modulo Multiply, ai moduli relativi al filtraggio dei dati di cui al punto 2).
- 2 **Filtraggio colonne d’interesse:** Per ciascun Goal vengono selezionate, oltre a quella del GRUPPO ISO, le altre colonne relative alle feature sia di input che di output. Questo passaggio è stato implementato attraverso un modulo “Select Attributes” per ogni feature da predire.

### - Quesito 1



\*La riga evidenziata è relativa alla feature da predire in output in output, che cambia per ogni *select attributes* tra: PCS, PCI, Azoto, Cloro, Zolfo. Le altre in elenco sono quelle di input.

### - Quesito 2



\*La riga evidenziata è relativa alla feature da predire in output, che cambia per ogni *select attributes* tra: PCS, PCI, Cloro, Zolfo. Le altre in elenco sono quelle di input.

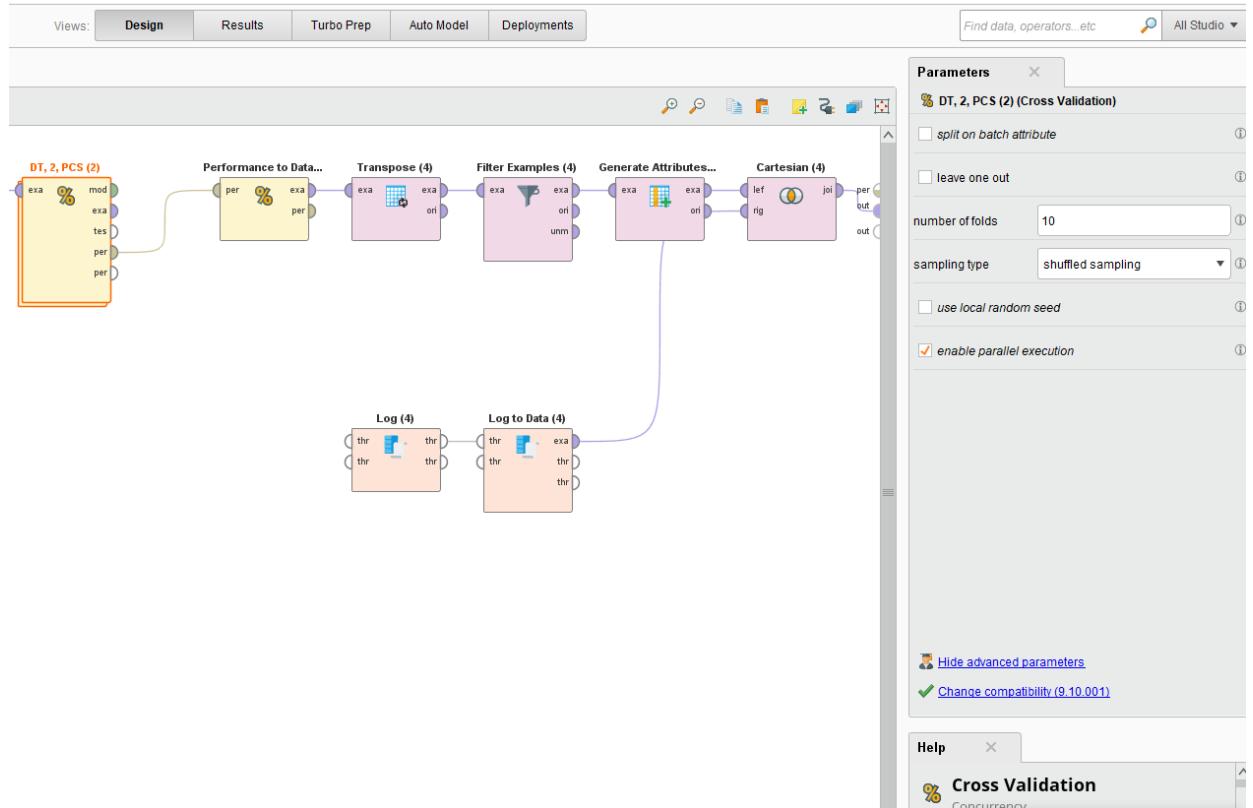
### - Quesito 3



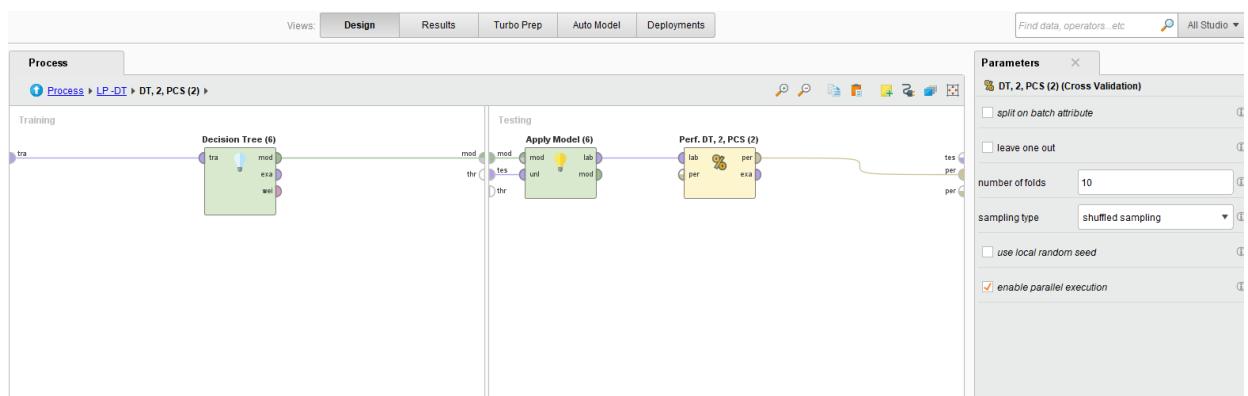
\*La riga evidenziata è relativa alla feature da predire in output, che cambia per ogni *select attributes* tra: PCS, PCI, Cloro, Zolfo. Le altre in elenco sono quelle di input.

- 3 **Pulizia dei valori nulli o mancanti:** successivamente sono stati eliminati i record che avessero dei valori nulli o vuoti (“missing”) per mezzo di un modulo “Filter Examples”.
- 4 **Impostazione della feature da predire:** effettuato con un modulo “Set Role”, in cui si è impostato il ruolo di “label” sulla feature che deve essere predetta, rispettivamente per ciascun goal.
- 5 **Parametri:** Tramite un ultimo Multiply si indirizzano i dati così filtrati verso i moduli “Loop Parameter” dentro i quali gli algoritmi vengono fatti reiterare sui valori delle combinazioni dei loro parametri. Al punto 6a vengono illustrati i parametri, i valori per essi scelti e i criteri di analisi per ciascun algoritmo.

**6 Algoritmi:** Per ciascun algoritmo, all'interno del rispettivo modulo “Loop Parameter” è stato inserito un modulo “Cross Validation” per la fase di addestramento e testing del modello di predizione da generare, con un numero di folds pari a 10. I moduli che seguono quello del “Cross Validation” hanno lo scopo di raccogliere i dati da quest'ultimo e rendere la loro visualizzazione nella scheda “Results” di Rapid Miner in una forma tabellare facilmente leggibile.



All'interno di ciascun modulo “Cross Validation” ciò che cambia è il modulo relativo all'algoritmo utilizzato, mentre la composizione del resto dei moduli è data da un modulo “Apply Model” e “Performance Regression”.



6a. Di seguito i criteri e i parametri che caratterizzano ciascun algoritmo:

- Decision Tree:
  - o *least square*: parametro specifico per la regressione con cui viene selezionato un attributo per la divisione, che riduce al minimo la distanza al quadrato tra la media dei valori nel nodo rispetto al valore vero.
- Random Forest:
  - o *least square*
  - o numero di alberi: il numero di alberi della forest casuali da generare.
- Svm Dot:
  - o  $C$ : costante di complessità degli SVM che imposta la tolleranza per l'errata classificazione; valori alti di  $C$  consentono limiti "più morbidi" e valori più bassi creano limiti "più rigidi". Una costante di complessità troppo grande può portare a un adattamento eccessivo, mentre valori troppo piccoli possono comportare un'eccessiva generalizzazione.
- Svm Radial:
  - o  $C$ ;
  - o *gamma*: parametro reale del kernel SVM disponibile solo quando il parametro *kernel type* è impostato su radial.
- Svm Polynomial:
  - o  $C$ ;
  - o *kernel degree*: il grado del parametro del kernel SVM ed è disponibile quando il grado del parametro del kernel type è impostato su polynomial.

Nello specifico, per ogni algoritmo sono stati scelti i seguenti valori per i loro parametri:

- **Decision Tree**, con criterio di errore sulla predizione scelto “least square error”, e profondità massima dell’albero pari a 10 ;
- **Random Forest**, con criterio di errore sulla predizione scelto “least square error”, numero di alberi generati pari a [10, 20, 50, 100, 200, 500, 1000] e profondità massima di ogni albero pari a 10;
- **SVM Dot**, kernel di tipo lineare(dot) e valori del parametro C pari a [0, 1, 10, 100, 1’000, 10’000];
- **SVM Radial**, kernel di tipo gaussiano(radial), valori del parametro C pari a [0, 1, 10, 100, 1’000, 10’000] e valori del parametro Gamma pari a [0.5 , 1, 2, 4, 8];
- **SVM Polynomial**, kernel di tipo polinomiale, valori del parametro C pari a [0, 1, 10, 100, 1’000, 10’000] e valori del kernel degree pari a [1, 2, 3, 4, 5].

6b. Infine, in tutti gli algoritmi, per ogni combinazione dei relativi parametri, gli indicatori di bontà della regressione utilizzati sono:

- **Root Mean Square Error (“RMSE”)**, che è la deviazione standard dei cosiddetti “residui” o “errori di predizione”, i quali rappresentano una misura della distanza tra i dati del dataset rispetto alla linea di regressione. Dunque l’ RMSE è una misura di quanto siano concentrati i dati a disposizione rispetto alla linea di regressione. Nello specifico di questo progetto, l’indicatore RMSE utilizzato è quello medio tra tutti gli RMSE generati per ognuno dei 10 fold gestiti dal modulo Cross Validation relativo a ciascun algoritmo.
- **Standard Deviation** degli RMSE generati per ognuno dei 10 fold gestiti dal modulo Cross Validation, rispetto al RMSE medio, per ogni fold relativo a ciascuna combinazione di parametri e alla loro variazione secondo i valori indicati nel paragrafo precedente.

### Visualizzazione dei risultati e criterio di analisi

I risultati ottenuti vengono visualizzati in tabelle. Di seguito ne viene fornita la struttura, ognuna relativa a ciascun algoritmo di interesse:

- Decision Tree:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.227	0.097

- Random Forest:

Row No.	id	algoritmo	numbers_of_trees	rmse	st_deviation
1	Value	Random For...	10	0.172	0.062
2	Value	Random For...	20	0.179	0.070
3	Value	Random For...	50	0.175	0.076
4	Value	Random For...	100	0.169	0.073
5	Value	Random For...	200	0.168	0.080
6	Value	Random For...	500	0.171	0.069
7	Value	Random For...	1000	0.167	0.071

- Svm Radial:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.211	0.066
2	Value	SVMradial	1	radial	0.500	0.192	0.053
3	Value	SVMradial	10	radial	0.500	0.430	0.276
4	Value	SVMradial	100	radial	0.500	0.287	0.111
5	Value	SVMradial	1000	radial	0.500	0.293	0.118
6	Value	SVMradial	10000	radial	0.500	0.290	0.118
7	Value	SVMradial	0	radial	1	0.187	0.054
8	Value	SVMradial	1	radial	1	0.196	0.080
9	Value	SVMradial	10	radial	1	0.185	0.052
10	Value	SVMradial	100	radial	1	0.203	0.052
11	Value	SVMradial	1000	radial	1	0.206	0.075
12	Value	SVMradial	10000	radial	1	0.192	0.063
13	Value	SVMradial	0	radial	2	0.171	0.079
14	Value	SVMradial	1	radial	2	0.154	0.063
15	Value	SVMradial	10	radial	2	0.157	0.066
16	Value	SVMradial	100	radial	2	0.170	0.061

- Svm Dot:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.243	0.120
2	Value	SVMdot	1	dot	0.296	0.187
3	Value	SVMdot	10	dot	0.266	0.142
4	Value	SVMdot	100	dot	0.244	0.133
5	Value	SVMdot	1000	dot	0.216	0.093
6	Value	SVMdot	10000	dot	423.783	384.855

- Svm Polynomial:

Row No.	id	algoritmo	C	kernel_type	kernel_degree	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.243	0.120
2	Value	SVMpolinomial	1	polynomial	1	0.296	0.187
3	Value	SVMpolinomial	10	polynomial	1	0.266	0.142
4	Value	SVMpolinomial	100	polynomial	1	0.244	0.133
5	Value	SVMpolinomial	1000	polynomial	1	0.216	0.093
6	Value	SVMpolinomial	10000	polynomial	1	423.783	384.855
7	Value	SVMpolinomial	0	polynomial	2	0.496	0.384
8	Value	SVMpolinomial	1	polynomial	2	0.633	0.414
9	Value	SVMpolinomial	10	polynomial	2	0.369	0.167
10	Value	SVMpolinomial	100	polynomial	2	343.456	311.824
11	Value	SVMpolinomial	1000	polynomial	2	231.035	242.080
12	Value	SVMpolinomial	10000	polynomial	2	0.572	0.433
13	Value	SVMpolinomial	0	polynomial	3	1.523	1.309
14	Value	SVMpolinomial	1	polynomial	3	299.179	311.223
15	Value	SVMpolinomial	10	polynomial	3	496.238	471.494
16	Value	SVMpolinomial	100	polynomial	3	2310.607	2344.225

Per analizzare i risultati ottenuti, una volta esportate su file con estensione “.collection” da Rapid Miner le relative tabelle, si è scelto di individuare i risultati migliori (ossia più bassi) in termini di RMSE e standard deviation, per poi approfondire l’analisi in due modi:

- 1- aggiungendo valori intermedi nei loop parameter relativamente ai parametri caratteristici di ciascun algoritmo, in corrispondenza delle situazioni più interessanti, quali salti di valore rilevanti e/o andamenti irregolari,
- 2- qualora necessario, effettuando un “controllo incrociato”: per valori di RMSE medi analoghi, si è valutata anche la somiglianza tra le corrispondenti misure della standard deviation, in quanto un’eventuale standard deviation maggiore per uno stesso valore di RMSE indica una peggiore capacità di predizione del modello addestrato nel fold interessato da detto fenomeno.

### **Analisi dei risultati**

In questa sezione elenchiamo tutti i risultati ottenuti seguendo il criterio di analisi appena specificato. Le tabelle sono suddivise in base ai seguenti livelli:

- Quesito 1, 2 e 3, relativi ai rispettivi Goal del progetto;
  - ISO 1, 2, 3 e 5;
  - Feature da predire.
  - Algoritmo

# QUESITO 1

## ISO1 PCI:

Decision Tree:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	635.593	81.678

Random Forest:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	612.615	94.851
2	Value	Random For...	20	605.107	165.205
3	Value	Random For...	50	610.185	123.377
4	Value	Random For...	100	612.243	133.668
5	Value	Random For...	200	604.924	147.763
6	Value	Random For...	500	605.937	128.081
7	Value	Random For...	1000	607.165	139.750

## Analizzato:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	610.175	96.691
2	Value	Random For...	12	599.300	168.756
3	Value	Random For...	14	609.526	123.932
4	Value	Random For...	16	601.773	135.299
5	Value	Random For...	18	608.041	148.224
6	Value	Random For...	50	606.392	129.298
7	Value	Random For...	100	603.959	142.933
8	Value	Random For...	200	606.992	141.966
9	Value	Random For...	250	602.719	134.472
10	Value	Random For...	500	608.983	109.037
11	Value	Random For...	750	605.258	100.080
12	Value	Random For...	1000	606.579	104.794

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	610.647	117.004
2	Value	SVMdot	1	dot	610.793	182.193
3	Value	SVMdot	10	dot	581.875	108.650
4	Value	SVMdot	100	dot	580.532	135.527
5	Value	SVMdot	1000	dot	580.303	156.151
6	Value	SVMdot	10000	dot	579.563	132.829

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	610.647	117.004
2	Value	SVMpolinomial	1	polynomial	1	610.793	182.193
3	Value	SVMpolinomial	10	polynomial	1	581.875	108.650
4	Value	SVMpolinomial	100	polynomial	1	580.532	135.527
5	Value	SVMpolinomial	1000	polynomial	1	580.303	156.151
6	Value	SVMpolinomial	10000	polynomial	1	579.563	132.829
7	Value	SVMpolinomial	0	polynomial	2	796.735	136.739
8	Value	SVMpolinomial	1	polynomial	2	842.624	277.632
9	Value	SVMpolinomial	10	polynomial	2	861.649	253.640
10	Value	SVMpolinomial	100	polynomial	2	859.732	266.159
11	Value	SVMpolinomial	1000	polynomial	2	863.450	266.473
12	Value	SVMpolinomial	10000	polynomial	2	859.666	254.545
13	Value	SVMpolinomial	0	polynomial	3	851.728	159.188
14	Value	SVMpolinomial	1	polynomial	3	1913.953	1500.881
15	Value	SVMpolinomial	10	polynomial	3	1565.091	1031.630
16	Value	SVMpolinomial	100	polynomial	3	1342.572	770.857
17	Value	SVMpolinomial	1000	polynomial	3	1606.014	1032.175
18	Value	SVMpolinomial	10000	polynomial	3	1280.939	712.847
19	Value	SVMpolinomial	0	polynomial	4	866.397	160.213
20	Value	SVMpolinomial	1	polynomial	4	1104.275	472.840
21	Value	SVMpolinomial	10	polynomial	4	905.498	203.685
22	Value	SVMpolinomial	100	polynomial	4	902.188	171.133
23	Value	SVMpolinomial	1000	polynomial	4	450409.391	449196.493
24	Value	SVMpolinomial	10000	polynomial	4	5197.836	2118.794
25	Value	SVMpolinomial	0	polynomial	5	868.021	118.460
26	Value	SVMpolinomial	1	polynomial	5	865.836	98.785
27	Value	SVMpolinomial	10	polynomial	5	4700.241	2726.632
28	Value	SVMpolinomial	100	polynomial	5	3335.404	1643.037
29	Value	SVMpolinomial	1000	polynomial	5	3938.271	2014.696
30	Value	SVMpolinomial	10000	polynomial	5	346561806...	346728134...

## SVMRADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	800.216	149.865
2	Value	SVMradial	1	radial	0.500	800.216	223.258
3	Value	SVMradial	10	radial	0.500	693.109	181.923
4	Value	SVMradial	100	radial	0.500	628.090	128.991
5	Value	SVMradial	1000	radial	0.500	610.212	154.130
6	Value	SVMradial	10000	radial	0.500	606.219	120.827
7	Value	SVMradial	0	radial	1	804.018	194.490
8	Value	SVMradial	1	radial	1	804.245	205.800
9	Value	SVMradial	10	radial	1	697.313	168.446
10	Value	SVMradial	100	radial	1	628.978	138.059
11	Value	SVMradial	1000	radial	1	612.019	116.734
12	Value	SVMradial	10000	radial	1	597.869	110.260
13	Value	SVMradial	0	radial	2	810.075	177.046
14	Value	SVMradial	1	radial	2	810.847	174.555
15	Value	SVMradial	10	radial	2	705.046	177.951
16	Value	SVMradial	100	radial	2	631.420	158.774
17	Value	SVMradial	1000	radial	2	612.972	121.831
18	Value	SVMradial	10000	radial	2	612.618	127.139
19	Value	SVMradial	0	radial	4	818.490	193.965
20	Value	SVMradial	1	radial	4	818.457	118.241
21	Value	SVMradial	10	radial	4	715.750	187.951
22	Value	SVMradial	100	radial	4	637.863	160.369
23	Value	SVMradial	1000	radial	4	613.569	148.188
24	Value	SVMradial	10000	radial	4	604.694	141.184
25	Value	SVMradial	0	radial	8	828.282	150.932
26	Value	SVMradial	1	radial	8	828.226	104.246
27	Value	SVMradial	10	radial	8	726.540	204.796
28	Value	SVMradial	100	radial	8	646.445	158.695
29	Value	SVMradial	1000	radial	8	613.615	156.178
30	Value	SVMradial	10000	radial	8	605.789	102.166

## ISO1 PCS:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	632.816	83.215

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	600.146	169.371
2	Value	Random For...	20	608.571	126.958
3	Value	Random For...	50	607.676	131.811
4	Value	Random For...	100	602.277	145.917
5	Value	Random For...	200	603.299	128.352
6	Value	Random For...	500	603.812	141.525
7	Value	Random For...	1000	607.299	142.719

### Analizzato:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	610.175	96.691
2	Value	Random For...	12	599.300	168.756
3	Value	Random For...	14	609.526	123.932
4	Value	Random For...	16	601.773	135.299
5	Value	Random For...	18	608.041	148.224
6	Value	Random For...	50	606.392	129.298
7	Value	Random For...	100	603.959	142.933
8	Value	Random For...	200	606.992	141.966
9	Value	Random For...	250	602.719	134.472
10	Value	Random For...	500	608.983	109.037
11	Value	Random For...	750	605.258	100.080
12	Value	Random For...	1000	606.579	104.794

### SVMDOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMDot	0	dot	610.210	136.716
2	Value	SVMDot	1	dot	610.729	153.280
3	Value	SVMDot	10	dot	577.351	114.971
4	Value	SVMDot	100	dot	576.683	127.335
5	Value	SVMDot	1000	dot	575.386	122.808
6	Value	SVMDot	10000	dot	575.482	87.199

### Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMDot	0	dot	610.627	116.625
2	Value	SVMDot	1	dot	610.416	183.409
3	Value	SVMDot	2	dot	589.330	111.867
4	Value	SVMDot	4	dot	580.850	134.199
5	Value	SVMDot	6	dot	578.446	157.514
6	Value	SVMDot	8	dot	577.414	131.948
7	Value	SVMDot	10	dot	577.042	144.489
8	Value	SVMDot	100	dot	576.361	126.574
9	Value	SVMDot	1000	dot	576.055	136.397
10	Value	SVMDot	2000	dot	575.916	102.602
11	Value	SVMDot	4000	dot	575.532	116.366
12	Value	SVMDot	6000	dot	576.335	109.494
13	Value	SVMDot	8000	dot	575.751	154.619
14	Value	SVMDot	10000	dot	575.194	114.653

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg_	rmse	st_deviation
1	Value	SVMpolynomial	0	polynomial	1	610.392	119.809
2	Value	SVMpolynomial	1	polynomial	1	610.605	159.740
3	Value	SVMpolynomial	10	polynomial	1	577.069	116.724
4	Value	SVMpolynomial	100	polynomial	1	576.783	123.291
5	Value	SVMpolynomial	1000	polynomial	1	576.195	108.567
6	Value	SVMpolynomial	10000	polynomial	1	576.893	101.553
7	Value	SVMpolynomial	0	polynomial	2	832.009	177.507
8	Value	SVMpolynomial	1	polynomial	2	883.300	244.008
9	Value	SVMpolynomial	10	polynomial	2	901.425	275.555
10	Value	SVMpolynomial	100	polynomial	2	903.276	293.097
11	Value	SVMpolynomial	1000	polynomial	2	892.221	247.218
12	Value	SVMpolynomial	10000	polynomial	2	901.511	272.736
13	Value	SVMpolynomial	0	polynomial	3	886.628	176.443
14	Value	SVMpolynomial	1	polynomial	3	1497.250	895.099
15	Value	SVMpolynomial	10	polynomial	3	1687.871	1083.581
16	Value	SVMpolynomial	100	polynomial	3	1418.899	814.288
17	Value	SVMpolynomial	1000	polynomial	3	1718.014	1137.489
18	Value	SVMpolynomial	10000	polynomial	3	1744.840	1129.873
19	Value	SVMpolynomial	0	polynomial	4	901.356	147.338
20	Value	SVMpolynomial	1	polynomial	4	942.109	181.244
21	Value	SVMpolynomial	10	polynomial	4	942.502	186.369
22	Value	SVMpolynomial	100	polynomial	4	2620.488	2196.174
23	Value	SVMpolynomial	1000	polynomial	4	519033.210	517370.078
24	Value	SVMpolynomial	10000	polynomial	4	4492.531	2177.751
25	Value	SVMpolynomial	0	polynomial	5	906.673	186.547
26	Value	SVMpolynomial	1	polynomial	5	910.790	179.997
27	Value	SVMpolynomial	10	polynomial	5	890953357...	891384290...

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	832.251	170.740
2	Value	SVMradial	1	radial	0.500	831.616	157.676
3	Value	SVMradial	10	radial	0.500	709.141	124.933
4	Value	SVMradial	100	radial	0.500	628.162	134.931
5	Value	SVMradial	1000	radial	0.500	608.818	162.089
6	Value	SVMradial	10000	radial	0.500	594.453	126.922
7	Value	SVMradial	0	radial	1	836.291	182.818
8	Value	SVMradial	1	radial	1	836.441	192.721
9	Value	SVMradial	10	radial	1	714.711	144.902
10	Value	SVMradial	100	radial	1	627.591	122.559
11	Value	SVMradial	1000	radial	1	612.020	160.962
12	Value	SVMradial	10000	radial	1	600.119	109.274
13	Value	SVMradial	0	radial	2	842.430	187.172
14	Value	SVMradial	1	radial	2	844.047	183.183
15	Value	SVMradial	10	radial	2	723.989	171.026
16	Value	SVMradial	100	radial	2	632.733	167.049
17	Value	SVMradial	1000	radial	2	612.369	139.357
18	Value	SVMradial	10000	radial	2	599.109	99.739
19	Value	SVMradial	0	radial	4	854.551	202.562
20	Value	SVMradial	1	radial	4	853.625	166.399
21	Value	SVMradial	10	radial	4	734.058	178.944
22	Value	SVMradial	100	radial	4	644.094	112.856
23	Value	SVMradial	1000	radial	4	614.657	137.277
24	Value	SVMradial	10000	radial	4	606.684	163.416
25	Value	SVMradial	0	radial	8	865.096	184.687
26	Value	SVMradial	1	radial	8	864.828	198.803
27	Value	SVMradial	10	radial	8	746.033	186.877
28	Value	SVMradial	100	radial	8	651.210	163.305
29	Value	SVMradial	1000	radial	8	615.004	141.440
30	Value	SVMradial	10000	radial	8	610.267	172.221

## **ISO1 AZOTO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.261	0.047

RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.261	0.052
2	Value	Random For...	20	0.260	0.058
3	Value	Random For...	50	0.258	0.052
4	Value	Random For...	100	0.259	0.059
5	Value	Random For...	200	0.260	0.065
6	Value	Random For...	500	0.260	0.042
7	Value	Random For...	1000	0.261	0.053

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	5.096	1.311
2	Value	SVMdot	1	dot	5.087	1.563
3	Value	SVMdot	10	dot	48.770	10.962
4	Value	SVMdot	100	dot	501.185	130.818
5	Value	SVMdot	1000	dot	4952.710	1222.064
6	Value	SVMdot	10000	dot	48128.039	8724.381

SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolynomial	0	polynomial	1	0.459	0.302
2	Value	SVMpolynomial	1	polynomial	1	0.264	0.050
3	Value	SVMpolynomial	10	polynomial	1	2.453	2.355
4	Value	SVMpolynomial	100	polynomial	1	0.272	0.045
5	Value	SVMpolynomial	1000	polynomial	1	0.315	0.044
6	Value	SVMpolynomial	10000	polynomial	1	0.287	0.058
7	Value	SVMpolynomial	0	polynomial	2	0.278	0.037
8	Value	SVMpolynomial	1	polynomial	2	0.279	0.048
9	Value	SVMpolynomial	10	polynomial	2	0.277	0.043
10	Value	SVMpolynomial	100	polynomial	2	0.278	0.052
11	Value	SVMpolynomial	1000	polynomial	2	0.520	0.186
12	Value	SVMpolynomial	10000	polynomial	2	0.803	0.359
13	Value	SVMpolynomial	0	polynomial	3	0.283	0.048
14	Value	SVMpolynomial	1	polynomial	3	0.286	0.052
15	Value	SVMpolynomial	10	polynomial	3	0.476	0.165
16	Value	SVMpolynomial	100	polynomial	3	0.541	0.144
17	Value	SVMpolynomial	1000	polynomial	3	1.252	0.817
18	Value	SVMpolynomial	10000	polynomial	3	0.937	0.361
19	Value	SVMpolynomial	0	polynomial	4	26.805	24.314
20	Value	SVMpolynomial	1	polynomial	4	0.852	0.489
21	Value	SVMpolynomial	10	polynomial	4	0.597	0.272
22	Value	SVMpolynomial	100	polynomial	4	0.649	0.188
23	Value	SVMpolynomial	1000	polynomial	4	98920176....	98981097....
24	Value	SVMpolynomial	10000	polynomial	4	103540406...	10339178...
25	Value	SVMpolynomial	0	polynomial	5	37.714	35.468
26	Value	SVMpolynomial	1	polynomial	5	3.193	2.813
27	Value	SVMpolynomial	10	polynomial	5	18414.197	18425.308
28	Value	SVMpolynomial	100	polynomial	5	19287934....	17556387....
29	Value	SVMpolynomial	1000	polynomial	5	262860660...	263022869...
30	Value	SVMpolynomial	10000	polynomial	5	113361102...	105240237...

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.254	0.049
2	Value	SVMradial	1	radial	0.500	0.254	0.053
3	Value	SVMradial	10	radial	0.500	0.255	0.061
4	Value	SVMradial	100	radial	0.500	0.261	0.048
5	Value	SVMradial	1000	radial	0.500	0.310	0.081
6	Value	SVMradial	10000	radial	0.500	0.427	0.120
7	Value	SVMradial	0	radial	1	0.255	0.044
8	Value	SVMradial	1	radial	1	0.254	0.052
9	Value	SVMradial	10	radial	1	0.255	0.051
10	Value	SVMradial	100	radial	1	0.263	0.060
11	Value	SVMradial	1000	radial	1	0.305	0.053
12	Value	SVMradial	10000	radial	1	0.459	0.119
13	Value	SVMradial	0	radial	2	0.254	0.055
14	Value	SVMradial	1	radial	2	0.254	0.056
15	Value	SVMradial	10	radial	2	0.255	0.059
16	Value	SVMradial	100	radial	2	0.265	0.061
17	Value	SVMradial	1000	radial	2	0.311	0.057
18	Value	SVMradial	10000	radial	2	0.415	0.057
19	Value	SVMradial	0	radial	4	0.254	0.058
20	Value	SVMradial	1	radial	4	0.254	0.043
21	Value	SVMradial	10	radial	4	0.425	0.279
22	Value	SVMradial	100	radial	4	0.267	0.055
23	Value	SVMradial	1000	radial	4	0.314	0.082
24	Value	SVMradial	10000	radial	4	0.405	0.066
25	Value	SVMradial	0	radial	8	0.255	0.066
26	Value	SVMradial	1	radial	8	0.254	0.056
28	Value	SVMradial	100	radial	8	0.268	0.056
29	Value	SVMradial	1000	radial	8	0.301	0.052
30	Value	SVMradial	10000	radial	8	0.379	0.080

## ISO1 CLORO:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.039	0.011

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.039	0.008
2	Value	Random For...	20	0.039	0.010
3	Value	Random For...	50	0.039	0.009
4	Value	Random For...	100	0.039	0.009
5	Value	Random For...	200	0.039	0.010
6	Value	Random For...	500	0.039	0.009
7	Value	Random For...	1000	0.039	0.010

### SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	50.989	20.627
2	Value	SVMdot	1	dot	55.354	12.684
3	Value	SVMdot	10	dot	584.794	127.615
4	Value	SVMdot	100	dot	2046.747	986.610
5	Value	SVMdot	1000	dot	8207.951	3603.053
6	Value	SVMdot	10000	dot	59326.387	22445.168

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg_	rmse	st_deviation
1	Value	SVMpolynomial	0	polynomial	1	0.044	0.014
2	Value	SVMpolynomial	1	polynomial	1	0.040	0.010
3	Value	SVMpolynomial	10	polynomial	1	0.042	0.011
4	Value	SVMpolynomial	100	polynomial	1	0.048	0.010
5	Value	SVMpolynomial	1000	polynomial	1	0.048	0.012
6	Value	SVMpolynomial	10000	polynomial	1	0.110	0.051
7	Value	SVMpolynomial	0	polynomial	2	1.397	1.144
8	Value	SVMpolynomial	1	polynomial	2	15.466	15.037
9	Value	SVMpolynomial	10	polynomial	2	0.050	0.016
10	Value	SVMpolynomial	100	polynomial	2	0.081	0.048
11	Value	SVMpolynomial	1000	polynomial	2	0.187	0.089
12	Value	SVMpolynomial	10000	polynomial	2	0.740	0.482
13	Value	SVMpolynomial	0	polynomial	3	3.149	3.121
14	Value	SVMpolynomial	1	polynomial	3	0.042	0.011
15	Value	SVMpolynomial	10	polynomial	3	553.901	542.355
16	Value	SVMpolynomial	100	polynomial	3	0.361	0.198
17	Value	SVMpolynomial	1000	polynomial	3	0.364	0.208
18	Value	SVMpolynomial	10000	polynomial	3	1.703	1.329
19	Value	SVMpolynomial	0	polynomial	4	163.996	142.996
20	Value	SVMpolynomial	1	polynomial	4	3447.403	3449.257
21	Value	SVMpolynomial	10	polynomial	4	0.617	0.594
22	Value	SVMpolynomial	100	polynomial	4	0.091	0.013
23	Value	SVMpolynomial	1000	polynomial	4	2114667.873	2111934.794
24	Value	SVMpolynomial	10000	polynomial	4	4918099.277	4689313.674
25	Value	SVMpolynomial	0	polynomial	5	40.334	38.609
26	Value	SVMpolynomial	1	polynomial	5	0.316	0.277
27	Value	SVMpolynomial	10	polynomial	5	59676.573	59709.689
28	Value	SVMpolynomial	100	polynomial	5	1.516	1.264
29	Value	SVMpolynomial	1000	polynomial	5	6.120	5.225
30	Value	SVMpolynomial	10000	polynomial	5	14.035	7.827

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.222	0.177
2	Value	SVMradial	1	radial	0.500	0.432	0.418
3	Value	SVMradial	10	radial	0.500	0.041	0.010
4	Value	SVMradial	100	radial	0.500	0.047	0.010
5	Value	SVMradial	1000	radial	0.500	0.081	0.036
6	Value	SVMradial	10000	radial	0.500	0.113	0.053
7	Value	SVMradial	0	radial	1	0.040	0.010
8	Value	SVMradial	1	radial	1	0.040	0.011
9	Value	SVMradial	10	radial	1	0.041	0.011
10	Value	SVMradial	100	radial	1	0.048	0.011
11	Value	SVMradial	1000	radial	1	0.067	0.012
12	Value	SVMradial	10000	radial	1	0.089	0.011
13	Value	SVMradial	0	radial	2	0.040	0.010
14	Value	SVMradial	1	radial	2	0.055	0.029
15	Value	SVMradial	10	radial	2	0.042	0.011
16	Value	SVMradial	100	radial	2	0.049	0.010
17	Value	SVMradial	1000	radial	2	0.059	0.010
18	Value	SVMradial	10000	radial	2	0.095	0.035
19	Value	SVMradial	0	radial	4	0.040	0.012
20	Value	SVMradial	1	radial	4	0.040	0.009
21	Value	SVMradial	10	radial	4	0.041	0.010
22	Value	SVMradial	100	radial	4	0.048	0.008
23	Value	SVMradial	1000	radial	4	0.059	0.007
24	Value	SVMradial	10000	radial	4	0.132	0.081
25	Value	SVMradial	0	radial	8	0.040	0.011
26	Value	SVMradial	1	radial	8	0.041	0.011
27	Value	SVMradial	10	radial	8	0.042	0.010
28	Value	SVMradial	100	radial	8	0.046	0.009
29	Value	SVMradial	1000	radial	8	0.074	0.030
30	Value	SVMradial	10000	radial	8	0.084	0.025

## **ISO1 ZOLFO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.026	0.003

RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.025	0.002
2	Value	Random For...	20	0.025	0.003
3	Value	Random For...	50	0.025	0.004
4	Value	Random For...	100	0.025	0.003
5	Value	Random For...	200	0.025	0.003
6	Value	Random For...	500	0.025	0.004
7	Value	Random For...	1000	0.025	0.003

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	81.266	20.729
2	Value	SVMdot	1	dot	82.023	23.080
3	Value	SVMdot	10	dot	817.034	210.085
4	Value	SVMdot	100	dot	1291.983	699.702
5	Value	SVMdot	1000	dot	13701.822	6718.932
6	Value	SVMdot	10000	dot	147377.392	55566.150

SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolynomial	0	polynomial	1	0.032	0.011
2	Value	SVMpolynomial	1	polynomial	1	0.027	0.004
3	Value	SVMpolynomial	10	polynomial	1	0.030	0.006
4	Value	SVMpolynomial	100	polynomial	1	0.033	0.006
5	Value	SVMpolynomial	1000	polynomial	1	0.031	0.005
6	Value	SVMpolynomial	10000	polynomial	1	0.053	0.010
7	Value	SVMpolynomial	0	polynomial	2	0.089	0.066
8	Value	SVMpolynomial	1	polynomial	2	8.113	8.104
9	Value	SVMpolynomial	10	polynomial	2	0.043	0.015
10	Value	SVMpolynomial	100	polynomial	2	0.069	0.041
11	Value	SVMpolynomial	1000	polynomial	2	0.061	0.014
12	Value	SVMpolynomial	10000	polynomial	2	0.089	0.031
13	Value	SVMpolynomial	0	polynomial	3	1.464	1.374
14	Value	SVMpolynomial	1	polynomial	3	0.073	0.052
15	Value	SVMpolynomial	10	polynomial	3	0.036	0.006
16	Value	SVMpolynomial	100	polynomial	3	0.097	0.068
17	Value	SVMpolynomial	1000	polynomial	3	0.075	0.038
18	Value	SVMpolynomial	10000	polynomial	3	0.077	0.043
19	Value	SVMpolynomial	0	polynomial	4	12.646	12.055
20	Value	SVMpolynomial	1	polynomial	4	20645.249	18634.752
21	Value	SVMpolynomial	10	polynomial	4	0.528	0.499
22	Value	SVMpolynomial	100	polynomial	4	0.069	0.010
23	Value	SVMpolynomial	1000	polynomial	4	0.067	0.011
24	Value	SVMpolynomial	10000	polynomial	4	5717865.078	5424376.279
25	Value	SVMpolynomial	0	polynomial	5	469.312	441.731
26	Value	SVMpolynomial	1	polynomial	5	0.548	0.529
27	Value	SVMpolynomial	10	polynomial	5	0.305	0.259
28	Value	SVMpolynomial	100	polynomial	5	0.063	0.011
29	Value	SVMpolynomial	1000	polynomial	5	32437635....	30970162....
30	Value	SVMpolynomial	10000	polynomial	5	2.928	2.132

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.025	0.003
2	Value	SVMradial	1	radial	0.500	0.025	0.003
3	Value	SVMradial	10	radial	0.500	0.026	0.004
4	Value	SVMradial	100	radial	0.500	0.035	0.007
5	Value	SVMradial	1000	radial	0.500	0.041	0.005
6	Value	SVMradial	10000	radial	0.500	0.049	0.005
7	Value	SVMradial	0	radial	1	0.025	0.003
8	Value	SVMradial	1	radial	1	0.025	0.003
9	Value	SVMradial	10	radial	1	0.026	0.004
10	Value	SVMradial	100	radial	1	0.036	0.007
11	Value	SVMradial	1000	radial	1	0.040	0.005
12	Value	SVMradial	10000	radial	1	0.048	0.011
13	Value	SVMradial	0	radial	2	0.025	0.005
14	Value	SVMradial	1	radial	2	0.025	0.004
15	Value	SVMradial	10	radial	2	0.027	0.004
16	Value	SVMradial	100	radial	2	0.034	0.003
17	Value	SVMradial	1000	radial	2	0.038	0.006
18	Value	SVMradial	10000	radial	2	0.057	0.013
19	Value	SVMradial	0	radial	4	0.025	0.004
20	Value	SVMradial	1	radial	4	0.025	0.003
21	Value	SVMradial	10	radial	4	0.027	0.003
22	Value	SVMradial	100	radial	4	0.036	0.006
23	Value	SVMradial	1000	radial	4	0.041	0.007
24	Value	SVMradial	10000	radial	4	0.062	0.021
25	Value	SVMradial	0	radial	8	0.025	0.004
26	Value	SVMradial	1	radial	8	0.025	0.003
27	Value	SVMradial	10	radial	8	0.027	0.003
28	Value	SVMradial	100	radial	8	0.035	0.004
29	Value	SVMradial	1000	radial	8	0.038	0.005
30	Value	SVMradial	10000	radial	8	0.044	0.006

## ISO2- PCS:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	580.931	136.031

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	562.432	135.920
2	Value	Random For...	20	558.765	145.649
3	Value	Random For...	50	563.193	106.359
4	Value	Random For...	100	559.176	121.619
5	Value	Random For...	200	556.719	116.287
6	Value	Random For...	500	556.301	123.828
7	Value	Random For...	1000	555.742	125.392

### SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	653.375	109.120
2	Value	SVMdot	1	dot	651.330	112.610
3	Value	SVMdot	10	dot	532.843	114.248
4	Value	SVMdot	100	dot	532.415	125.038
5	Value	SVMdot	1000	dot	533.408	127.680
6	Value	SVMdot	10000	dot	532.522	129.712

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg_	rmse	st_deviation
1	Value	SVMpolynomial	0	polynomial	1	653.375	109.120
2	Value	SVMpolynomial	1	polynomial	1	651.330	112.610
3	Value	SVMpolynomial	10	polynomial	1	532.843	114.248
4	Value	SVMpolynomial	100	polynomial	1	532.415	125.038
5	Value	SVMpolynomial	1000	polynomial	1	533.408	127.680
6	Value	SVMpolynomial	10000	polynomial	1	532.522	129.712
7	Value	SVMpolynomial	0	polynomial	2	1121.767	117.566
8	Value	SVMpolynomial	1	polynomial	2	1034.158	175.706
9	Value	SVMpolynomial	10	polynomial	2	1064.834	319.944
10	Value	SVMpolynomial	100	polynomial	2	1113.679	348.815
11	Value	SVMpolynomial	1000	polynomial	2	1133.446	383.665
12	Value	SVMpolynomial	10000	polynomial	2	1131.158	353.068
13	Value	SVMpolynomial	0	polynomial	3	1203.282	130.543
14	Value	SVMpolynomial	1	polynomial	3	1997.417	1334.296
15	Value	SVMpolynomial	10	polynomial	3	2124.637	1443.067
16	Value	SVMpolynomial	100	polynomial	3	2748.131	2227.557
17	Value	SVMpolynomial	1000	polynomial	3	2110.881	1440.177
18	Value	SVMpolynomial	10000	polynomial	3	2145.900	1501.088
19	Value	SVMpolynomial	0	polynomial	4	1240.654	160.699
20	Value	SVMpolynomial	1	polynomial	4	2110.177	1445.174
21	Value	SVMpolynomial	10	polynomial	4	1855.810	1118.567
22	Value	SVMpolynomial	100	polynomial	4	1470.057	611.740
23	Value	SVMpolynomial	1000	polynomial	4	2607282.077	2602809.684
24	Value	SVMpolynomial	10000	polynomial	4	1675.567	563.368
25	Value	SVMpolynomial	0	polynomial	5	1253.119	126.574
26	Value	SVMpolynomial	1	polynomial	5	1568.279	678.511
27	Value	SVMpolynomial	10	polynomial	5	1711.013	845.777
28	Value	SVMpolynomial	100	polynomial	5	1729.606	898.664
29	Value	SVMpolynomial	1000	polynomial	5	5160.042	2774.912
30	Value	SVMpolynomial	10000	polynomial	5	17557.262	15624.303

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1104.838	140.676
2	Value	SVMradial	1	radial	0.500	1103.285	192.092
3	Value	SVMradial	10	radial	0.500	806.227	168.997
4	Value	SVMradial	100	radial	0.500	655.582	181.067
5	Value	SVMradial	1000	radial	0.500	559.085	130.876
6	Value	SVMradial	10000	radial	0.500	537.274	127.131
7	Value	SVMradial	0	radial	1	1103.022	192.824
8	Value	SVMradial	1	radial	1	1102.541	162.604
9	Value	SVMradial	10	radial	1	820.195	205.817
10	Value	SVMradial	100	radial	1	662.888	111.453
11	Value	SVMradial	1000	radial	1	570.058	143.810
12	Value	SVMradial	10000	radial	1	540.015	143.659
13	Value	SVMradial	0	radial	2	1117.829	177.681
14	Value	SVMradial	1	radial	2	1116.902	216.054
15	Value	SVMradial	10	radial	2	844.443	181.080
16	Value	SVMradial	100	radial	2	670.111	250.119
17	Value	SVMradial	1000	radial	2	583.202	138.669
18	Value	SVMradial	10000	radial	2	543.867	119.924
19	Value	SVMradial	0	radial	4	1128.425	179.924
20	Value	SVMradial	1	radial	4	1138.440	199.811
21	Value	SVMradial	10	radial	4	868.680	181.517
22	Value	SVMradial	100	radial	4	679.137	192.527
23	Value	SVMradial	1000	radial	4	600.674	114.202
24	Value	SVMradial	10000	radial	4	561.124	107.688
25	Value	SVMradial	0	radial	8	1157.882	145.344
26	Value	SVMradial	1	radial	8	1156.330	230.050
27	Value	SVMradial	10	radial	8	900.664	165.370
28	Value	SVMradial	100	radial	8	695.150	168.029
29	Value	SVMradial	1000	radial	8	636.358	217.372
30	Value	SVMradial	10000	radial	8	600.219	120.143

## ISO2 PCI:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	590.377	131.900

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_of_trees	rmse	st_deviation
1	Value	Random Forest	10	565.035	138.595
2	Value	Random Forest	20	560.798	144.781
3	Value	Random Forest	50	565.591	106.152
4	Value	Random Forest	100	562.038	121.879
5	Value	Random Forest	200	561.001	114.828
6	Value	Random Forest	500	557.417	122.873
7	Value	Random Forest	1000	559.088	125.104

### SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	629.260	111.900
2	Value	SVMdot	1	dot	625.512	115.143
3	Value	SVMdot	10	dot	536.058	112.464
4	Value	SVMdot	100	dot	535.038	124.188
5	Value	SVMdot	1000	dot	536.110	125.144
6	Value	SVMdot	10000	dot	535.317	128.602

### Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	629.260	111.900
2	Value	SVMdot	1	dot	625.512	115.143
3	Value	SVMdot	2	dot	560.802	106.472
4	Value	SVMdot	4	dot	539.902	122.487
5	Value	SVMdot	6	dot	537.492	128.383
6	Value	SVMdot	8	dot	536.290	131.091
7	Value	SVMdot	10	dot	535.825	131.999
8	Value	SVMdot	100	dot	535.419	122.415
9	Value	SVMdot	1000	dot	534.620	134.347
10	Value	SVMdot	10000	dot	535.322	120.622

### SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degree	rmse	st_deviation
1	Value	SVMPolynomial	0	polynomial	1	629.260	111.900
2	Value	SVMPolynomial	1	polynomial	1	625.512	115.143
3	Value	SVMPolynomial	10	polynomial	1	536.058	112.464
4	Value	SVMPolynomial	100	polynomial	1	535.038	124.188
5	Value	SVMPolynomial	1000	polynomial	1	536.110	125.144
6	Value	SVMPolynomial	10000	polynomial	1	535.317	128.602
7	Value	SVMPolynomial	0	polynomial	2	1042.124	115.531
8	Value	SVMPolynomial	1	polynomial	2	967.125	168.733
9	Value	SVMPolynomial	10	polynomial	2	1015.410	326.678
10	Value	SVMPolynomial	100	polynomial	2	1037.838	314.771
11	Value	SVMPolynomial	1000	polynomial	2	1070.294	385.632
12	Value	SVMPolynomial	10000	polynomial	2	1070.137	350.603
13	Value	SVMPolynomial	0	polynomial	3	1122.087	123.364
14	Value	SVMPolynomial	1	polynomial	3	1845.151	1233.876
15	Value	SVMPolynomial	10	polynomial	3	1933.542	1294.092
16	Value	SVMPolynomial	100	polynomial	3	2543.279	2064.320
17	Value	SVMPolynomial	1000	polynomial	3	1914.635	1293.507
18	Value	SVMPolynomial	10000	polynomial	3	1910.490	1294.148
19	Value	SVMPolynomial	0	polynomial	4	1158.007	158.198
20	Value	SVMPolynomial	1	polynomial	4	1951.717	1326.913
21	Value	SVMPolynomial	10	polynomial	4	1651.234	940.939
22	Value	SVMPolynomial	100	polynomial	4	1299.747	463.027
23	Value	SVMPolynomial	1000	polynomial	4	1289.261	435.609
24	Value	SVMPolynomial	10000	polynomial	4	2289.649	1586.393
25	Value	SVMPolynomial	0	polynomial	5	1170.878	129.311
26	Value	SVMPolynomial	1	polynomial	5	1443.632	606.029
27	Value	SVMPolynomial	10	polynomial	5	1630.457	833.483
28	Value	SVMPolynomial	100	polynomial	5	1560.370	769.149
29	Value	SVMPolynomial	1000	polynomial	5	2947.623	735.460
30	Value	SVMPolynomial	10000	polynomial	5	4089.723	1038.519

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1026.110	128.955
2	Value	SVMradial	1	radial	0.500	1022.603	168.464
3	Value	SVMradial	10	radial	0.500	768.419	159.819
4	Value	SVMradial	100	radial	0.500	636.903	169.785
5	Value	SVMradial	1000	radial	0.500	557.275	130.433
6	Value	SVMradial	10000	radial	0.500	538.611	127.684
7	Value	SVMradial	0	radial	1	1016.911	171.250
8	Value	SVMradial	1	radial	1	1024.088	157.555
9	Value	SVMradial	10	radial	1	784.205	197.927
10	Value	SVMradial	100	radial	1	643.621	113.335
11	Value	SVMradial	1000	radial	1	564.723	140.933
12	Value	SVMradial	10000	radial	1	544.608	142.339
13	Value	SVMradial	0	radial	2	1042.300	166.672
14	Value	SVMradial	1	radial	2	1039.451	195.633
15	Value	SVMradial	10	radial	2	802.678	171.951
16	Value	SVMradial	100	radial	2	651.438	232.929
17	Value	SVMradial	1000	radial	2	575.432	139.270
18	Value	SVMradial	10000	radial	2	544.914	112.707
19	Value	SVMradial	0	radial	4	1060.912	180.190
20	Value	SVMradial	1	radial	4	1056.092	178.561
21	Value	SVMradial	10	radial	4	822.368	169.549
22	Value	SVMradial	100	radial	4	658.896	185.424
23	Value	SVMradial	1000	radial	4	590.559	112.966
24	Value	SVMradial	10000	radial	4	662.110	237.448
25	Value	SVMradial	0	radial	8	1077.673	144.764
26	Value	SVMradial	1	radial	8	1083.189	224.374
27	Value	SVMradial	10	radial	8	850.629	150.045
28	Value	SVMradial	100	radial	8	669.911	157.118
29	Value	SVMradial	1000	radial	8	623.920	201.320
30	Value	SVMradial	10000	radial	8	573.590	112.414

## ISO2 AZOTO:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.525	0.386

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.560	0.374
2	Value	Random For...	20	0.526	0.359
3	Value	Random For...	50	0.527	0.374
4	Value	Random For...	100	0.534	0.373
5	Value	Random For...	200	0.533	0.390
6	Value	Random For...	500	0.533	0.373
7	Value	Random For...	1000	0.532	0.385

## Analizzato:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.512	0.382
2	Value	Random For...	12	0.560	0.376
3	Value	Random For...	14	0.519	0.363
4	Value	Random For...	16	0.542	0.380
5	Value	Random For...	18	0.542	0.376
6	Value	Random For...	20	0.538	0.392
7	Value	Random For...	50	0.525	0.369
8	Value	Random For...	100	0.533	0.387
9	Value	Random For...	200	0.519	0.374
10	Value	Random For...	500	0.519	0.372
11	Value	Random For...	1000	0.516	0.342

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviati
1	Value	SVMdot	0	dot	0.485	0.390
2	Value	SVMdot	1	dot	0.497	0.393
3	Value	SVMdot	10	dot	0.496	0.391
4	Value	SVMdot	100	dot	0.501	0.383
5	Value	SVMdot	1000	dot	0.486	0.396
6	Value	SVMdot	10000	dot	0.493	0.405

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviati
1	Value	SVMdot	0	dot	0.485	0.390
2	Value	SVMdot	1	dot	0.497	0.393
3	Value	SVMdot	10	dot	0.496	0.391
4	Value	SVMdot	100	dot	0.501	0.383
5	Value	SVMdot	200	dot	0.486	0.396
6	Value	SVMdot	400	dot	0.493	0.405
7	Value	SVMdot	600	dot	0.494	0.390
8	Value	SVMdot	800	dot	0.487	0.409
9	Value	SVMdot	1000	dot	0.496	0.387
10	Value	SVMdot	10000	dot	0.487	0.404

## SVM POLYMONIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg_	rmse	st_deviati
1	Value	SVMpolynomial	0	polynomial	1	0.485	0.390
2	Value	SVMpolynomial	1	polynomial	1	0.497	0.393
3	Value	SVMpolynomial	10	polynomial	1	0.496	0.391
4	Value	SVMpolynomial	100	polynomial	1	0.501	0.383
5	Value	SVMpolynomial	1000	polynomial	1	0.486	0.396
6	Value	SVMpolynomial	10000	polynomial	1	0.493	0.405
7	Value	SVMpolynomial	0	polynomial	2	0.722	0.592
8	Value	SVMpolynomial	1	polynomial	2	0.579	0.503
9	Value	SVMpolynomial	10	polynomial	2	0.661	0.678
10	Value	SVMpolynomial	100	polynomial	2	0.650	0.531
11	Value	SVMpolynomial	1000	polynomial	2	0.585	0.438
12	Value	SVMpolynomial	10000	polynomial	2	0.732	0.604
13	Value	SVMpolynomial	0	polynomial	3	0.566	0.430
14	Value	SVMpolynomial	1	polynomial	3	1.568	1.495
15	Value	SVMpolynomial	10	polynomial	3	0.905	0.787
16	Value	SVMpolynomial	100	polynomial	3	1.542	1.475
17	Value	SVMpolynomial	1000	polynomial	3	1.729	1.479
18	Value	SVMpolynomial	10000	polynomial	3	1.505	1.427
19	Value	SVMpolynomial	0	polynomial	4	3.685	3.306
20	Value	SVMpolynomial	1	polynomial	4	3.905	3.928
21	Value	SVMpolynomial	10	polynomial	4	4.543	4.100
22	Value	SVMpolynomial	100	polynomial	4	4.134	4.170
23	Value	SVMpolynomial	1000	polynomial	4	1029.672	954.243
24	Value	SVMpolynomial	10000	polynomial	4	2954417.997	2735745.698
25	Value	SVMpolynomial	0	polynomial	5	12.243	12.583
26	Value	SVMpolynomial	1	polynomial	5	9.655	9.903
27	Value	SVMpolynomial	10	polynomial	5	12.229	11.236
28	Value	SVMpolynomial	100	polynomial	5	10.054	10.316
29	Value	SVMpolynomial	1000	polynomial	5	18.570	17.116
30	Value	SVMpolynomial	10000	polynomial	5	16.827	17.340

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviacion
1	Value	SVMradial	0	radial	0.500	0.497	0.391
2	Value	SVMradial	1	radial	0.500	0.502	0.380
3	Value	SVMradial	10	radial	0.500	0.496	0.377
4	Value	SVMradial	100	radial	0.500	0.500	0.369
5	Value	SVMradial	1000	radial	0.500	1.058	0.894
6	Value	SVMradial	10000	radial	0.500	2.007	1.684
7	Value	SVMradial	0	radial	1	0.500	0.380
8	Value	SVMradial	1	radial	1	0.491	0.396
9	Value	SVMradial	10	radial	1	0.493	0.371
10	Value	SVMradial	100	radial	1	0.544	0.413
11	Value	SVMradial	1000	radial	1	0.525	0.361
12	Value	SVMradial	10000	radial	1	0.558	0.387
13	Value	SVMradial	0	radial	2	0.495	0.382
14	Value	SVMradial	1	radial	2	0.494	0.376
15	Value	SVMradial	10	radial	2	0.496	0.328
16	Value	SVMradial	100	radial	2	0.496	0.391
17	Value	SVMradial	1000	radial	2	0.486	0.335
18	Value	SVMradial	10000	radial	2	7.280	6.586
19	Value	SVMradial	0	radial	4	0.496	0.341
20	Value	SVMradial	1	radial	4	0.486	0.364
21	Value	SVMradial	10	radial	4	0.490	0.375
22	Value	SVMradial	100	radial	4	3.101	2.732
23	Value	SVMradial	1000	radial	4	0.625	0.425
24	Value	SVMradial	10000	radial	4	424.773	432.206
25	Value	SVMradial	0	radial	8	0.493	0.380
27	Value	SVMradial	10	radial	8	0.569	0.385
28	Value	SVMradial	100	radial	8	0.540	0.309
29	Value	SVMradial	1000	radial	8	50.794	49.861
30	Value	SVMradial	10000	radial	8	166.799	164.034

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.497	0.391
2	Value	SVMradial	1	radial	0.500	0.502	0.380
3	Value	SVMradial	10	radial	0.500	0.496	0.377
4	Value	SVMradial	100	radial	0.500	0.500	0.369
5	Value	SVMradial	200	radial	0.500	0.508	0.393
6	Value	SVMradial	400	radial	0.500	0.640	0.455
7	Value	SVMradial	600	radial	0.500	0.562	0.375
8	Value	SVMradial	800	radial	0.500	0.555	0.378
9	Value	SVMradial	1000	radial	0.500	0.927	0.729
10	Value	SVMradial	2000	radial	0.500	1.160	1.043
11	Value	SVMradial	4000	radial	0.500	0.564	0.400
12	Value	SVMradial	6000	radial	0.500	1.605	1.413
13	Value	SVMradial	8000	radial	0.500	1.798	1.480
14	Value	SVMradial	10000	radial	0.500	1.772	1.684
15	Value	SVMradial	0	radial	1	0.486	0.333
16	Value	SVMradial	1	radial	1	0.495	0.386
17	Value	SVMradial	10	radial	1	0.543	0.342
18	Value	SVMradial	100	radial	1	0.543	0.369
19	Value	SVMradial	200	radial	1	0.709	0.526
20	Value	SVMradial	400	radial	1	0.598	0.426
21	Value	SVMradial	600	radial	1	0.656	0.436
22	Value	SVMradial	800	radial	1	0.632	0.433
23	Value	SVMradial	1000	radial	1	0.624	0.445
24	Value	SVMradial	2000	radial	1	0.537	0.347
25	Value	SVMradial	4000	radial	1	0.914	0.677
26	Value	SVMradial	6000	radial	1	20.566	20.979
27	Value	SVMradial	8000	radial	1	1.473	1.206
28	Value	SVMradial	10000	radial	1	13.816	13.947
29	Value	SVMradial	0	radial	2	0.491	0.377
30	Value	SVMradial	1	radial	2	0.493	0.371
31	Value	SVMradial	10	radial	2	0.492	0.394
32	Value	SVMradial	100	radial	2	0.498	0.317
33	Value	SVMradial	200	radial	2	10.642	9.779
34	Value	SVMradial	400	radial	2	10.441	10.738
35	Value	SVMradial	600	radial	2	22.514	23.233
36	Value	SVMradial	800	radial	2	0.547	0.368
37	Value	SVMradial	1000	radial	2	0.523	0.356
38	Value	SVMradial	2000	radial	2	15.822	15.713
39	Value	SVMradial	4000	radial	2	1.248	0.870
40	Value	SVMradial	6000	radial	2	21.861	22.475
41	Value	SVMradial	8000	radial	2	2.699	2.620
42	Value	SVMradial	10000	radial	2	411.218	425.489
43	Value	SVMradial	0	radial	4	0.488	0.366
44	Value	SVMradial	1	radial	4	0.489	0.337
45	Value	SVMradial	10	radial	4	0.489	0.378
46	Value	SVMradial	100	radial	4	0.540	0.368
47	Value	SVMradial	200	radial	4	1.190	0.906
48	Value	SVMradial	400	radial	4	0.567	0.362
49	Value	SVMradial	600	radial	4	0.837	0.579
50	Value	SVMradial	800	radial	4	26.902	24.783
51	Value	SVMradial	1000	radial	4	0.564	0.397
52	Value	SVMradial	2000	radial	4	40.573	41.920
53	Value	SVMradial	4000	radial	4	8.849	7.852
54	Value	SVMradial	6000	radial	4	472.880	407.919
55	Value	SVMradial	8000	radial	4	1.728	1.440
56	Value	SVMradial	10000	radial	4	374.013	356.583
57	Value	SVMradial	0	radial	8	0.485	0.370
58	Value	SVMradial	1	radial	8	0.487	0.332
59	Value	SVMradial	10	radial	8	0.494	0.320
60	Value	SVMradial	100	radial	8	6.432	5.217
61	Value	SVMradial	200	radial	8	22.416	22.631
62	Value	SVMradial	400	radial	8	38.073	36.350
63	Value	SVMradial	600	radial	8	44.259	39.819
64	Value	SVMradial	800	radial	8	17.143	15.489
65	Value	SVMradial	1000	radial	8	10.642	9.401
66	Value	SVMradial	2000	radial	8	37.728	37.333
67	Value	SVMradial	4000	radial	8	4.798	4.126
68	Value	SVMradial	6000	radial	8	521.643	521.383
69	Value	SVMradial	8000	radial	8	171.612	148.465
70	Value	SVMradial	10000	radial	8	233.241	233.408

## **ISO2 CLORO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.202	0.036

RANDOM FOREST:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.172	0.056
2	Value	SVMdot	1	dot	0.168	0.081
3	Value	SVMdot	10	dot	0.171	0.059
4	Value	SVMdot	100	dot	0.184	0.068
5	Value	SVMdot	1000	dot	0.172	0.063
6	Value	SVMdot	10000	dot	0.175	0.057

SVM POLYNOMIAL: (NOTA: fare riferimento alle prime 6 righe, della tabella che segue, per i risultati relativi all'SVM DOT).

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.172	0.056
2	Value	SVMpolinomial	1	polynomial	1	0.168	0.081
3	Value	SVMpolinomial	10	polynomial	1	0.171	0.059
4	Value	SVMpolinomial	100	polynomial	1	0.184	0.068
5	Value	SVMpolinomial	1000	polynomial	1	0.172	0.063
6	Value	SVMpolinomial	10000	polynomial	1	0.175	0.057
7	Value	SVMpolinomial	0	polynomial	2	0.382	0.292
8	Value	SVMpolinomial	1	polynomial	2	0.403	0.312
9	Value	SVMpolinomial	10	polynomial	2	0.296	0.202
10	Value	SVMpolinomial	100	polynomial	2	0.399	0.316
11	Value	SVMpolinomial	1000	polynomial	2	0.382	0.299
12	Value	SVMpolinomial	10000	polynomial	2	0.375	0.287
13	Value	SVMpolinomial	0	polynomial	3	0.211	0.090
14	Value	SVMpolinomial	1	polynomial	3	0.763	0.699
15	Value	SVMpolinomial	10	polynomial	3	0.828	0.759
16	Value	SVMpolinomial	100	polynomial	3	0.835	0.770
17	Value	SVMpolinomial	1000	polynomial	3	0.937	0.874
18	Value	SVMpolinomial	10000	polynomial	3	1254351.405	1254351.353
19	Value	SVMpolinomial	0	polynomial	4	1.902	1.849
20	Value	SVMpolinomial	1	polynomial	4	2.533	2.478
21	Value	SVMpolinomial	10	polynomial	4	2.101	2.040
22	Value	SVMpolinomial	100	polynomial	4	2.104	2.048
23	Value	SVMpolinomial	1000	polynomial	4	2.505	2.447
24	Value	SVMpolinomial	10000	polynomial	4	1.947	1.884
25	Value	SVMpolinomial	0	polynomial	5	4.817	4.759
26	Value	SVMpolinomial	1	polynomial	5	17.313	17.261
27	Value	SVMpolinomial	10	polynomial	5	5.661	5.607
28	Value	SVMpolinomial	100	polynomial	5	5.664	5.609
29	Value	SVMpolinomial	1000	polynomial	5	58813.552	56280.635
30	Value	SVMpolinomial	10000	polynomial	5	10.351	10.195

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.161	0.055
2	Value	SVMradial	1	radial	0.500	0.169	0.072
3	Value	SVMradial	10	radial	0.500	0.198	0.053
4	Value	SVMradial	100	radial	0.500	0.216	0.062
5	Value	SVMradial	1000	radial	0.500	0.385	0.307
6	Value	SVMradial	10000	radial	0.500	0.279	0.165
7	Value	SVMradial	0	radial	1	0.167	0.046
8	Value	SVMradial	1	radial	1	0.180	0.057
9	Value	SVMradial	10	radial	1	0.210	0.093
10	Value	SVMradial	100	radial	1	0.193	0.057
11	Value	SVMradial	1000	radial	1	0.432	0.341
12	Value	SVMradial	10000	radial	1	1.368	1.219
13	Value	SVMradial	0	radial	2	0.192	0.053
14	Value	SVMradial	1	radial	2	0.186	0.082
15	Value	SVMradial	10	radial	2	0.225	0.093
16	Value	SVMradial	100	radial	2	0.223	0.091
17	Value	SVMradial	1000	radial	2	1.035	0.896
18	Value	SVMradial	10000	radial	2	2.564	2.382
19	Value	SVMradial	0	radial	4	0.189	0.054
20	Value	SVMradial	1	radial	4	0.193	0.057
21	Value	SVMradial	10	radial	4	0.226	0.055
22	Value	SVMradial	100	radial	4	5.367	4.957
23	Value	SVMradial	1000	radial	4	67.812	67.677
24	Value	SVMradial	10000	radial	4	18.679	18.085
25	Value	SVMradial	0	radial	8	0.210	0.058
26	Value	SVMradial	1	radial	8	0.208	0.086
27	Value	SVMradial	10	radial	8	0.225	0.088
28	Value	SVMradial	100	radial	8	0.271	0.128
29	Value	SVMradial	1000	radial	8	45.959	45.405
30	Value	SVMradial	10000	radial	8	580.852	517.815

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.161	0.055
2	Value	SVMradial	1	radial	0.500	0.169	0.072
3	Value	SVMradial	2	radial	0.500	0.174	0.045
4	Value	SVMradial	4	radial	0.500	0.170	0.062
5	Value	SVMradial	6	radial	0.500	0.175	0.066
6	Value	SVMradial	8	radial	0.500	0.194	0.077
7	Value	SVMradial	10	radial	0.500	0.168	0.044
8	Value	SVMradial	100	radial	0.500	0.215	0.054
9	Value	SVMradial	1000	radial	0.500	0.459	0.363
10	Value	SVMradial	10000	radial	0.500	0.293	0.157
11	Value	SVMradial	0	radial	1	0.180	0.068
12	Value	SVMradial	1	radial	1	0.176	0.041
13	Value	SVMradial	2	radial	1	0.184	0.045
14	Value	SVMradial	4	radial	1	0.185	0.087
15	Value	SVMradial	6	radial	1	0.194	0.054
16	Value	SVMradial	8	radial	1	0.185	0.062
17	Value	SVMradial	10	radial	1	0.184	0.071
18	Value	SVMradial	100	radial	1	0.214	0.082
19	Value	SVMradial	1000	radial	1	4.170	3.928
20	Value	SVMradial	10000	radial	1	2.095	1.909
21	Value	SVMradial	0	radial	2	0.177	0.060
22	Value	SVMradial	1	radial	2	0.180	0.067
23	Value	SVMradial	2	radial	2	0.179	0.062
24	Value	SVMradial	4	radial	2	0.192	0.063
25	Value	SVMradial	6	radial	2	0.194	0.040
26	Value	SVMradial	8	radial	2	0.194	0.094
27	Value	SVMradial	10	radial	2	0.202	0.067
28	Value	SVMradial	100	radial	2	0.243	0.099
29	Value	SVMradial	1000	radial	2	1.367	1.210
30	Value	SVMradial	10000	radial	2	1.843	1.583
31	Value	SVMradial	0	radial	4	0.204	0.069
32	Value	SVMradial	1	radial	4	0.186	0.064
33	Value	SVMradial	2	radial	4	0.183	0.051
34	Value	SVMradial	4	radial	4	0.231	0.068
35	Value	SVMradial	6	radial	4	0.292	0.169
36	Value	SVMradial	8	radial	4	1.874	1.752
37	Value	SVMradial	10	radial	4	0.380	0.252
38	Value	SVMradial	100	radial	4	1.116	0.986
39	Value	SVMradial	1000	radial	4	1.673	1.452
40	Value	SVMradial	10000	radial	4	29.298	29.079
41	Value	SVMradial	0	radial	8	0.203	0.050
42	Value	SVMradial	1	radial	8	0.201	0.040
43	Value	SVMradial	2	radial	8	0.214	0.073
44	Value	SVMradial	4	radial	8	0.246	0.095
45	Value	SVMradial	6	radial	8	0.255	0.085
46	Value	SVMradial	8	radial	8	0.624	0.512
47	Value	SVMradial	10	radial	8	0.233	0.086
48	Value	SVMradial	100	radial	8	1.925	1.805
49	Value	SVMradial	1000	radial	8	1.124	0.978
50	Value	SVMradial	10000	radial	8	456.142	393.672

## ISO2 ZOLFO:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.044	0.021

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.042	0.022
2	Value	Random For...	20	0.042	0.021
3	Value	Random For...	50	0.042	0.019
4	Value	Random For...	100	0.044	0.020
5	Value	Random For...	200	0.041	0.020
6	Value	Random For...	500	0.043	0.021
7	Value	Random For...	1000	0.042	0.019

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.040	0.018
2	Value	SVMdot	1	dot	0.041	0.019
3	Value	SVMdot	10	dot	0.041	0.018
4	Value	SVMdot	100	dot	0.040	0.022
5	Value	SVMdot	1000	dot	0.040	0.021
6	Value	SVMdot	10000	dot	0.041	0.019

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg..	rmse	st_deviation
1	Value	SVMpolynomial	0	polynomial	1	0.040	0.018
2	Value	SVMpolynomial	1	polynomial	1	0.041	0.019
3	Value	SVMpolynomial	10	polynomial	1	0.041	0.018
4	Value	SVMpolynomial	100	polynomial	1	0.040	0.022
5	Value	SVMpolynomial	1000	polynomial	1	0.040	0.021
6	Value	SVMpolynomial	10000	polynomial	1	0.041	0.019
7	Value	SVMpolynomial	0	polynomial	2	0.057	0.038
8	Value	SVMpolynomial	1	polynomial	2	0.064	0.041
9	Value	SVMpolynomial	10	polynomial	2	0.057	0.036
10	Value	SVMpolynomial	100	polynomial	2	0.058	0.035
11	Value	SVMpolynomial	1000	polynomial	2	0.058	0.036
12	Value	SVMpolynomial	10000	polynomial	2	0.056	0.035
13	Value	SVMpolynomial	0	polynomial	3	0.134	0.117
14	Value	SVMpolynomial	1	polynomial	3	0.093	0.073
15	Value	SVMpolynomial	10	polynomial	3	0.102	0.087
16	Value	SVMpolynomial	100	polynomial	3	0.098	0.080
17	Value	SVMpolynomial	1000	polynomial	3	0.108	0.092
18	Value	SVMpolynomial	10000	polynomial	3	0.153	0.127
19	Value	SVMpolynomial	0	polynomial	4	0.223	0.209
20	Value	SVMpolynomial	1	polynomial	4	0.295	0.282
21	Value	SVMpolynomial	10	polynomial	4	0.280	0.266
22	Value	SVMpolynomial	100	polynomial	4	0.263	0.248
23	Value	SVMpolynomial	1000	polynomial	4	0.285	0.270
24	Value	SVMpolynomial	10000	polynomial	4	0.621	0.531
25	Value	SVMpolynomial	0	polynomial	5	0.641	0.628
26	Value	SVMpolynomial	1	polynomial	5	1.802	1.790
27	Value	SVMpolynomial	10	polynomial	5	0.600	0.587
28	Value	SVMpolynomial	100	polynomial	5	1978.631	1978.575
29	Value	SVMpolynomial	1000	polynomial	5	9966.679	9966.127
30	Value	SVMpolynomial	10000	polynomial	5	7.856	7.797

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.045	0.019
2	Value	SVMradial	1	radial	0.500	0.045	0.020
3	Value	SVMradial	10	radial	0.500	0.049	0.020
4	Value	SVMradial	100	radial	0.500	0.089	0.059
5	Value	SVMradial	1000	radial	0.500	0.120	0.096
6	Value	SVMradial	10000	radial	0.500	0.526	0.464
7	Value	SVMradial	0	radial	1	0.048	0.021
8	Value	SVMradial	1	radial	1	0.048	0.020
9	Value	SVMradial	10	radial	1	0.053	0.018
10	Value	SVMradial	100	radial	1	0.078	0.033
11	Value	SVMradial	1000	radial	1	45.551	45.459
12	Value	SVMradial	10000	radial	1	68.798	68.495
13	Value	SVMradial	0	radial	2	0.051	0.022
14	Value	SVMradial	1	radial	2	0.053	0.026
15	Value	SVMradial	10	radial	2	0.059	0.027
16	Value	SVMradial	100	radial	2	0.105	0.073
17	Value	SVMradial	1000	radial	2	3.318	3.289
18	Value	SVMradial	10000	radial	2	5.590	5.522
19	Value	SVMradial	0	radial	4	0.051	0.017
20	Value	SVMradial	1	radial	4	0.084	0.058
21	Value	SVMradial	10	radial	4	1.327	1.191
22	Value	SVMradial	100	radial	4	0.179	0.158
23	Value	SVMradial	1000	radial	4	18.509	18.173
24	Value	SVMradial	10000	radial	4	205.469	180.521
25	Value	SVMradial	0	radial	8	0.053	0.025
26	Value	SVMradial	1	radial	8	0.049	0.026
27	Value	SVMradial	10	radial	8	0.198	0.161
28	Value	SVMradial	100	radial	8	3.668	3.462
29	Value	SVMradial	1000	radial	8	49.201	49.139
30	Value	SVMradial	10000	radial	8	0.919	0.816

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.045	0.019
2	Value	SVMradial	1	radial	0.500	0.045	0.020
3	Value	SVMradial	10	radial	0.500	0.049	0.020
4	Value	SVMradial	100	radial	0.500	0.089	0.059
5	Value	SVMradial	200	radial	0.500	0.072	0.046
6	Value	SVMradial	400	radial	0.500	0.124	0.094
7	Value	SVMradial	600	radial	0.500	0.169	0.135
8	Value	SVMradial	800	radial	0.500	0.084	0.049
9	Value	SVMradial	1000	radial	0.500	1.907	1.879
10	Value	SVMradial	10000	radial	0.500	0.451	0.389
11	Value	SVMradial	0	radial	1	0.048	0.020
12	Value	SVMradial	1	radial	1	0.045	0.019
13	Value	SVMradial	10	radial	1	0.056	0.026
14	Value	SVMradial	100	radial	1	0.068	0.036
15	Value	SVMradial	200	radial	1	0.138	0.115
16	Value	SVMradial	400	radial	1	0.163	0.131
17	Value	SVMradial	600	radial	1	0.129	0.087
18	Value	SVMradial	800	radial	1	36.962	36.517
19	Value	SVMradial	1000	radial	1	0.186	0.149
20	Value	SVMradial	10000	radial	1	14.575	14.478
21	Value	SVMradial	0	radial	2	0.053	0.024
22	Value	SVMradial	1	radial	2	0.049	0.024
23	Value	SVMradial	10	radial	2	0.053	0.022
24	Value	SVMradial	100	radial	2	0.099	0.066
25	Value	SVMradial	200	radial	2	5.682	5.643
26	Value	SVMradial	400	radial	2	10.491	10.476
27	Value	SVMradial	600	radial	2	3.406	3.376
28	Value	SVMradial	800	radial	2	0.070	0.039
29	Value	SVMradial	1000	radial	2	0.123	0.092
30	Value	SVMradial	10000	radial	2	26.984	25.046
31	Value	SVMradial	0	radial	4	0.163	0.138
32	Value	SVMradial	1	radial	4	0.055	0.018
33	Value	SVMradial	10	radial	4	0.048	0.019
34	Value	SVMradial	100	radial	4	2.325	2.294
35	Value	SVMradial	200	radial	4	1.152	1.132
36	Value	SVMradial	400	radial	4	9.429	9.391
37	Value	SVMradial	600	radial	4	14.153	13.884
38	Value	SVMradial	800	radial	4	0.160	0.135
39	Value	SVMradial	1000	radial	4	17.586	17.497
40	Value	SVMradial	10000	radial	4	325.708	312.255
41	Value	SVMradial	0	radial	8	0.071	0.044
42	Value	SVMradial	1	radial	8	0.049	0.019
43	Value	SVMradial	10	radial	8	0.338	0.320
44	Value	SVMradial	100	radial	8	13.927	11.593
45	Value	SVMradial	200	radial	8	11.483	10.501
46	Value	SVMradial	400	radial	8	7.836	7.788
47	Value	SVMradial	600	radial	8	21.139	20.354
48	Value	SVMradial	800	radial	8	49.873	44.648
49	Value	SVMradial	1000	radial	8	41.302	39.088
50	Value	SVMradial	10000	radial	8	251.945	240.215

## ISO3 PCS

-DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	1586.287	758.610

-RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	1572.051	597.190
2	Value	Random For...	20	1581.637	680.390
3	Value	Random For...	50	1582.923	569.324
4	Value	Random For...	100	1649.193	702.461
5	Value	Random For...	200	1640.391	686.374
6	Value	Random For...	500	1552.670	653.569
7	Value	Random For...	1000	1598.692	657.108

Analizzato:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	1559.655	759.364
2	Value	Random For...	50	1571.936	619.971
3	Value	Random For...	100	1587.662	700.193
4	Value	Random For...	200	1587.618	588.190
5	Value	Random For...	250	1651.594	691.658
6	Value	Random For...	500	1632.898	678.966
7	Value	Random For...	750	1551.610	649.168
8	Value	Random For...	1000	1598.692	657.108

-SVM DOT:

Row No. ↑	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1513.593	545.893
2	Value	SVMdot	1	dot	1531.449	546.717
3	Value	SVMdot	10	dot	1551.804	590.829
4	Value	SVMdot	100	dot	1628.484	743.559
5	Value	SVMdot	1000	dot	1798.653	943.235
6	Value	SVMdot	10000	dot	1871.897	1011.442

## -SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1502.742	536.835
2	Value	SVMpolinomial	1	polynomial	1	1534.725	590.354
3	Value	SVMpolinomial	10	polynomial	1	1555.708	568.939
4	Value	SVMpolinomial	100	polynomial	1	1605.098	774.265
5	Value	SVMpolinomial	1000	polynomial	1	1696.046	680.236
6	Value	SVMpolinomial	10000	polynomial	1	1694.969	962.787
7	Value	SVMpolinomial	0	polynomial	2	1522.803	555.854
8	Value	SVMpolinomial	1	polynomial	2	1523.916	682.037
9	Value	SVMpolinomial	10	polynomial	2	1534.503	455.649
10	Value	SVMpolinomial	100	polynomial	2	1556.014	500.406
11	Value	SVMpolinomial	1000	polynomial	2	1681.786	758.820
12	Value	SVMpolinomial	10000	polynomial	2	1556.116	583.224
13	Value	SVMpolinomial	0	polynomial	3	1511.605	569.915
14	Value	SVMpolinomial	1	polynomial	3	1467.680	699.278
15	Value	SVMpolinomial	10	polynomial	3	1509.353	386.314
16	Value	SVMpolinomial	100	polynomial	3	1512.393	583.942
17	Value	SVMpolinomial	1000	polynomial	3	1491.326	472.903
18	Value	SVMpolinomial	10000	polynomial	3	1465.906	579.738
19	Value	SVMpolinomial	0	polynomial	4	1527.428	553.384
20	Value	SVMpolinomial	1	polynomial	4	1333.513	292.668
21	Value	SVMpolinomial	10	polynomial	4	1288.975	244.859
22	Value	SVMpolinomial	100	polynomial	4	1429.520	436.083
23	Value	SVMpolinomial	1000	polynomial	4	1413.338	541.562
24	Value	SVMpolinomial	10000	polynomial	4	1266.279	325.134
25	Value	SVMpolinomial	0	polynomial	5	1522.243	545.732
26	Value	SVMpolinomial	1	polynomial	5	1365.102	414.859
27	Value	SVMpolinomial	10	polynomial	5	1301.436	370.142
28	Value	SVMpolinomial	100	polynomial	5	1379.487	427.321
29	Value	SVMpolinomial	1000	polynomial	5	1308.817	474.204
30	Value	SVMpolinomial	10000	polynomial	5	1299.572	320.830

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1503.800	663.023
2	Value	SVMpolinomial	1	polynomial	1	1513.126	640.649
3	Value	SVMpolinomial	2	polynomial	1	1531.498	639.271
4	Value	SVMpolinomial	4	polynomial	1	1531.484	573.949
5	Value	SVMpolinomial	6	polynomial	1	1599.473	686.536
6	Value	SVMpolinomial	8	polynomial	1	1569.942	592.095
7	Value	SVMpolinomial	10	polynomial	1	1568.522	607.766
8	Value	SVMpolinomial	100	polynomial	1	1675.201	775.345
9	Value	SVMpolinomial	1000	polynomial	1	1590.567	558.726
10	Value	SVMpolinomial	10000	polynomial	1	1646.503	670.885
11	Value	SVMpolinomial	0	polynomial	2	1520.843	639.640
12	Value	SVMpolinomial	1	polynomial	2	1502.830	565.858
13	Value	SVMpolinomial	2	polynomial	2	1509.585	593.775
14	Value	SVMpolinomial	4	polynomial	2	1514.523	454.618
15	Value	SVMpolinomial	6	polynomial	2	1473.766	427.405
16	Value	SVMpolinomial	8	polynomial	2	1477.180	568.474
17	Value	SVMpolinomial	10	polynomial	2	1527.001	548.228
18	Value	SVMpolinomial	100	polynomial	2	1531.919	578.444
19	Value	SVMpolinomial	1000	polynomial	2	1444.604	560.901
20	Value	SVMpolinomial	10000	polynomial	2	1552.263	458.151
21	Value	SVMpolinomial	0	polynomial	3	1520.248	550.380
22	Value	SVMpolinomial	1	polynomial	3	1471.029	535.902
23	Value	SVMpolinomial	2	polynomial	3	1511.855	542.281
24	Value	SVMpolinomial	4	polynomial	3	1421.229	421.221
25	Value	SVMpolinomial	6	polynomial	3	1448.241	521.346
26	Value	SVMpolinomial	8	polynomial	3	1470.280	511.201
27	Value	SVMpolinomial	10	polynomial	3	1448.965	524.628
28	Value	SVMpolinomial	100	polynomial	3	1453.247	566.583
29	Value	SVMpolinomial	1000	polynomial	3	1440.171	525.053
30	Value	SVMpolinomial	10000	polynomial	3	4605.113	3868.532
31	Value	SVMpolinomial	0	polynomial	4	1503.766	514.049
32	Value	SVMpolinomial	1	polynomial	4	1365.459	288.147
33	Value	SVMpolinomial	2	polynomial	4	1422.776	337.386
34	Value	SVMpolinomial	4	polynomial	4	1480.152	464.303
35	Value	SVMpolinomial	6	polynomial	4	1402.115	455.314
36	Value	SVMpolinomial	8	polynomial	4	1276.609	395.490
37	Value	SVMpolinomial	10	polynomial	4	2143.870	1499.448
38	Value	SVMpolinomial	100	polynomial	4	1442.802	335.136
39	Value	SVMpolinomial	1000	polynomial	4	1402.803	389.826
40	Value	SVMpolinomial	10000	polynomial	4	1419.204	452.916
41	Value	SVMpolinomial	0	polynomial	5	1458.833	441.675
42	Value	SVMpolinomial	1	polynomial	5	1264.480	292.837
43	Value	SVMpolinomial	2	polynomial	5	3903.514	3147.152
44	Value	SVMpolinomial	4	polynomial	5	1339.655	420.477
45	Value	SVMpolinomial	6	polynomial	5	1269.609	275.158
46	Value	SVMpolinomial	8	polynomial	5	1259.872	384.511
47	Value	SVMpolinomial	10	polynomial	5	1261.163	270.321
48	Value	SVMpolinomial	100	polynomial	5	1266.726	257.212
49	Value	SVMpolinomial	1000	polynomial	5	1335.667	409.582
50	Value	SVMpolinomial	10000	polynomial	5	1349.163	455.825

## -SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1540.194	546.463
2	Value	SVMradial	1	radial	0.500	1510.283	524.204
3	Value	SVMradial	10	radial	0.500	1515.730	640.523
4	Value	SVMradial	100	radial	0.500	1512.131	586.448
5	Value	SVMradial	1000	radial	0.500	1500.393	757.669
6	Value	SVMradial	10000	radial	0.500	1426.061	418.778
7	Value	SVMradial	0	radial	1	1507.173	468.112
8	Value	SVMradial	1	radial	1	1513.410	611.205
9	Value	SVMradial	10	radial	1	1529.253	552.560
10	Value	SVMradial	100	radial	1	1510.207	659.399
11	Value	SVMradial	1000	radial	1	1504.190	709.381
12	Value	SVMradial	10000	radial	1	1497.297	465.454
13	Value	SVMradial	0	radial	2	1534.320	573.759
14	Value	SVMradial	1	radial	2	1527.992	588.572
15	Value	SVMradial	10	radial	2	1527.187	639.484
16	Value	SVMradial	100	radial	2	1533.865	604.655
17	Value	SVMradial	1000	radial	2	1500.084	632.266
18	Value	SVMradial	10000	radial	2	1517.124	717.912
19	Value	SVMradial	0	radial	4	1516.278	626.378
20	Value	SVMradial	1	radial	4	1528.336	682.406
21	Value	SVMradial	10	radial	4	1526.726	636.767
22	Value	SVMradial	100	radial	4	1540.857	598.929
23	Value	SVMradial	1000	radial	4	1510.471	688.222
24	Value	SVMradial	10000	radial	4	3007.089	2180.418
25	Value	SVMradial	0	radial	8	1529.700	479.123
26	Value	SVMradial	1	radial	8	1524.201	613.060
27	Value	SVMradial	10	radial	8	1523.459	649.699
28	Value	SVMradial	100	radial	8	1531.023	479.490
29	Value	SVMradial	1000	radial	8	1526.562	703.711
30	Value	SVMradial	10000	radial	8	1699.458	789.733

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1501.771	661.293
2	Value	SVMradial	1	radial	0.500	1509.492	635.839
3	Value	SVMradial	10	radial	0.500	1523.013	628.554
4	Value	SVMradial	100	radial	0.500	1482.138	593.689
5	Value	SVMradial	1000	radial	0.500	1515.762	715.244
6	Value	SVMradial	2000	radial	0.500	1497.160	682.614
7	Value	SVMradial	4000	radial	0.500	1487.327	708.877
8	Value	SVMradial	6000	radial	0.500	1418.585	618.867
9	Value	SVMradial	8000	radial	0.500	1414.144	497.215
10	Value	SVMradial	10000	radial	0.500	1433.898	569.413
11	Value	SVMradial	0	radial	1	1519.924	639.353
12	Value	SVMradial	1	radial	1	1529.552	593.402
13	Value	SVMradial	10	radial	1	1542.281	634.471
14	Value	SVMradial	100	radial	1	1533.391	564.219
15	Value	SVMradial	1000	radial	1	1510.695	532.307
16	Value	SVMradial	2000	radial	1	1493.326	668.613
17	Value	SVMradial	4000	radial	1	1535.487	557.265
18	Value	SVMradial	6000	radial	1	1501.964	579.895
19	Value	SVMradial	8000	radial	1	1542.208	677.806
20	Value	SVMradial	10000	radial	1	1497.297	465.454
21	Value	SVMradial	0	radial	2	1534.320	573.759
22	Value	SVMradial	1	radial	2	1527.992	588.572
23	Value	SVMradial	10	radial	2	1527.187	639.484
24	Value	SVMradial	100	radial	2	1533.865	604.655
25	Value	SVMradial	1000	radial	2	1500.084	632.266
26	Value	SVMradial	2000	radial	2	1543.170	734.260
27	Value	SVMradial	4000	radial	2	1531.248	756.322
28	Value	SVMradial	6000	radial	2	1561.159	780.247
29	Value	SVMradial	8000	radial	2	1518.617	745.310
30	Value	SVMradial	10000	radial	2	1554.872	575.158
31	Value	SVMradial	0	radial	4	1512.795	528.132
32	Value	SVMradial	1	radial	4	1546.683	593.194
33	Value	SVMradial	10	radial	4	1529.063	481.602
34	Value	SVMradial	100	radial	4	1505.620	569.153
35	Value	SVMradial	1000	radial	4	1500.729	732.155
36	Value	SVMradial	2000	radial	4	1513.826	601.503
37	Value	SVMradial	4000	radial	4	1517.221	712.121
38	Value	SVMradial	6000	radial	4	1636.850	692.585
39	Value	SVMradial	8000	radial	4	1550.126	662.374
40	Value	SVMradial	10000	radial	4	1577.859	688.187
41	Value	SVMradial	0	radial	8	1535.977	550.986
42	Value	SVMradial	1	radial	8	1513.442	683.131
43	Value	SVMradial	10	radial	8	1508.853	452.372
44	Value	SVMradial	100	radial	8	1544.359	716.715
45	Value	SVMradial	1000	radial	8	1528.661	598.332
46	Value	SVMradial	2000	radial	8	1578.072	907.827
47	Value	SVMradial	4000	radial	8	1561.626	664.653
48	Value	SVMradial	6000	radial	8	1595.005	778.299
49	Value	SVMradial	8000	radial	8	1593.470	707.331
50	Value	SVMradial	10000	radial	8	1671.711	653.348

## **ISO3 PCI**

-DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	1551.231	742.334

-RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	1536.917	588.708
2	Value	Random Forest	20	1542.210	665.665
3	Value	Random Forest	50	1543.132	537.642
4	Value	Random Forest	100	1601.988	668.357
5	Value	Random Forest	200	1593.690	631.613
6	Value	Random Forest	500	1511.925	625.942
7	Value	Random Forest	1000	1564.153	639.133

**Analizzato:**

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	1531.084	741.531
2	Value	Random For...	20	1514.619	594.109
3	Value	Random For...	50	1541.740	668.811
4	Value	Random For...	100	1556.820	549.457
5	Value	Random For...	200	1599.694	652.466
6	Value	Random For...	250	1597.160	629.644
7	Value	Random For...	300	1512.430	629.772
8	Value	Random For...	350	1552.290	626.677
9	Value	Random For...	400	1538.125	463.879
10	Value	Random For...	450	1563.579	527.065
11	Value	Random For...	500	1625.649	733.926
12	Value	Random For...	1000	1585.959	605.404

-SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1481.786	639.948
2	Value	SVMdot	1	dot	1479.834	609.945
3	Value	SVMdot	10	dot	1527.624	645.770
4	Value	SVMdot	100	dot	1632.655	765.513
5	Value	SVMdot	1000	dot	1865.704	1075.551
6	Value	SVMdot	10000	dot	1770.429	817.182

## -SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1481.786	639.948
2	Value	SVMpolinomial	1	polynomial	1	1479.834	609.945
3	Value	SVMpolinomial	10	polynomial	1	1527.624	645.770
4	Value	SVMpolinomial	100	polynomial	1	1632.655	765.513
5	Value	SVMpolinomial	1000	polynomial	1	1865.704	1075.551
6	Value	SVMpolinomial	10000	polynomial	1	1770.429	817.182
7	Value	SVMpolinomial	0	polynomial	2	1517.613	559.607
8	Value	SVMpolinomial	1	polynomial	2	1494.587	557.428
9	Value	SVMpolinomial	10	polynomial	2	1499.180	422.762
10	Value	SVMpolinomial	100	polynomial	2	1513.311	434.270
11	Value	SVMpolinomial	1000	polynomial	2	1831.798	916.632
12	Value	SVMpolinomial	10000	polynomial	2	1523.682	566.314
13	Value	SVMpolinomial	0	polynomial	3	1522.129	597.113
14	Value	SVMpolinomial	1	polynomial	3	1408.935	333.180
15	Value	SVMpolinomial	10	polynomial	3	1370.505	248.916
16	Value	SVMpolinomial	100	polynomial	3	1400.805	478.521
17	Value	SVMpolinomial	1000	polynomial	3	1417.766	430.373
18	Value	SVMpolinomial	10000	polynomial	3	1353.386	411.769
19	Value	SVMpolinomial	0	polynomial	4	1458.771	590.815
20	Value	SVMpolinomial	1	polynomial	4	1302.311	285.836
21	Value	SVMpolinomial	10	polynomial	4	1312.949	280.225
22	Value	SVMpolinomial	100	polynomial	4	1262.393	474.790
23	Value	SVMpolinomial	1000	polynomial	4	1267.091	304.683
24	Value	SVMpolinomial	10000	polynomial	4	2384.906	1613.861
25	Value	SVMpolinomial	0	polynomial	5	1435.939	521.815
26	Value	SVMpolinomial	1	polynomial	5	1386.909	436.973
27	Value	SVMpolinomial	10	polynomial	5	1511.544	630.990
28	Value	SVMpolinomial	100	polynomial	5	1252.331	432.191
29	Value	SVMpolinomial	1000	polynomial	5	3904.225	3217.728
30	Value	SVMpolinomial	10000	polynomial	5	1240.229	405.000

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1481.786	639.948
2	Value	SVMpolinomial	1	polynomial	1	1479.834	609.945
3	Value	SVMpolinomial	2	polynomial	1	1515.335	621.928
4	Value	SVMpolinomial	4	polynomial	1	1504.707	536.779
5	Value	SVMpolinomial	6	polynomial	1	1572.766	644.914
6	Value	SVMpolinomial	8	polynomial	1	1548.804	550.846
7	Value	SVMpolinomial	10	polynomial	1	1537.821	592.291
8	Value	SVMpolinomial	20	polynomial	1	1522.211	607.935
9	Value	SVMpolinomial	40	polynomial	1	1533.792	525.175
10	Value	SVMpolinomial	60	polynomial	1	1524.113	547.286
11	Value	SVMpolinomial	80	polynomial	1	1659.606	786.640
12	Value	SVMpolinomial	100	polynomial	1	1643.325	785.629
13	Value	SVMpolinomial	1000	polynomial	1	1864.482	1009.077
14	Value	SVMpolinomial	10000	polynomial	1	1842.512	874.950
15	Value	SVMpolinomial	0	polynomial	2	1475.434	451.378
16	Value	SVMpolinomial	1	polynomial	2	1480.626	580.718
17	Value	SVMpolinomial	2	polynomial	2	1463.074	520.582
18	Value	SVMpolinomial	4	polynomial	2	1423.496	543.793
19	Value	SVMpolinomial	6	polynomial	2	1442.429	583.640
20	Value	SVMpolinomial	8	polynomial	2	1481.139	415.869
21	Value	SVMpolinomial	10	polynomial	2	1487.621	470.580
22	Value	SVMpolinomial	20	polynomial	2	1477.909	497.905
23	Value	SVMpolinomial	40	polynomial	2	1492.689	426.320
24	Value	SVMpolinomial	60	polynomial	2	1450.262	451.332
25	Value	SVMpolinomial	80	polynomial	2	1440.305	450.901
26	Value	SVMpolinomial	100	polynomial	2	1505.176	528.091
27	Value	SVMpolinomial	1000	polynomial	2	1512.709	510.315
28	Value	SVMpolinomial	10000	polynomial	2	1508.151	588.745
29	Value	SVMpolinomial	0	polynomial	3	1490.078	585.498
30	Value	SVMpolinomial	1	polynomial	3	1548.399	685.412
31	Value	SVMpolinomial	2	polynomial	3	1565.790	590.347
32	Value	SVMpolinomial	4	polynomial	3	1436.234	373.083
33	Value	SVMpolinomial	6	polynomial	3	1408.404	346.325
34	Value	SVMpolinomial	8	polynomial	3	1712.411	758.603
35	Value	SVMpolinomial	10	polynomial	3	1380.871	451.152
36	Value	SVMpolinomial	20	polynomial	3	1414.041	415.520
37	Value	SVMpolinomial	40	polynomial	3	1456.059	451.847
38	Value	SVMpolinomial	60	polynomial	3	1453.728	375.183
39	Value	SVMpolinomial	80	polynomial	3	1401.824	360.577
40	Value	SVMpolinomial	100	polynomial	3	1424.601	426.119
41	Value	SVMpolinomial	1000	polynomial	3	1355.226	344.637
42	Value	SVMpolinomial	10000	polynomial	3	1356.263	451.613
43	Value	SVMpolinomial	0	polynomial	4	1449.671	399.615
44	Value	SVMpolinomial	1	polynomial	4	1332.020	381.041
45	Value	SVMpolinomial	2	polynomial	4	1341.235	350.709
46	Value	SVMpolinomial	4	polynomial	4	1262.419	384.451
47	Value	SVMpolinomial	6	polynomial	4	1256.672	282.930
48	Value	SVMpolinomial	8	polynomial	4	1309.884	251.822
49	Value	SVMpolinomial	10	polynomial	4	1331.625	384.025
50	Value	SVMpolinomial	20	polynomial	4	1265.750	364.688
51	Value	SVMpolinomial	40	polynomial	4	1331.522	317.641

## -SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1473.233	637.699
2	Value	SVMradial	1	radial	0.500	1476.726	605.776
3	Value	SVMradial	10	radial	0.500	1504.925	612.957
4	Value	SVMradial	100	radial	0.500	1444.752	565.800
5	Value	SVMradial	1000	radial	0.500	1469.724	666.560
6	Value	SVMradial	10000	radial	0.500	1459.546	533.417
7	Value	SVMradial	0	radial	1	1521.447	566.697
8	Value	SVMradial	1	radial	1	1496.607	561.114
9	Value	SVMradial	10	radial	1	1509.572	500.781
10	Value	SVMradial	100	radial	1	1429.165	550.458
11	Value	SVMradial	1000	radial	1	1503.542	697.866
12	Value	SVMradial	10000	radial	1	1498.084	554.142
13	Value	SVMradial	0	radial	2	1519.251	593.272
14	Value	SVMradial	1	radial	2	1519.011	490.914
15	Value	SVMradial	10	radial	2	1495.525	457.945
16	Value	SVMradial	100	radial	2	1454.952	637.173
17	Value	SVMradial	1000	radial	2	1502.088	550.254
18	Value	SVMradial	10000	radial	2	1466.475	675.559
19	Value	SVMradial	0	radial	4	1490.566	632.265
20	Value	SVMradial	1	radial	4	1520.488	494.683
21	Value	SVMradial	10	radial	4	1503.182	567.001
22	Value	SVMradial	100	radial	4	1538.130	592.842
23	Value	SVMradial	1000	radial	4	1462.463	662.807
24	Value	SVMradial	10000	radial	4	1505.918	657.350
25	Value	SVMradial	0	radial	8	1480.869	598.459
26	Value	SVMradial	1	radial	8	1505.425	574.016
27	Value	SVMradial	10	radial	8	1514.479	601.575
28	Value	SVMradial	100	radial	8	1545.558	699.033
29	Value	SVMradial	1000	radial	8	1497.662	726.296
30	Value	SVMradial	10000	radial	8	1657.007	516.064

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1473.233	637.699
2	Value	SVMradial	1	radial	0.500	1476.726	605.776
3	Value	SVMradial	10	radial	0.500	1504.925	612.957
4	Value	SVMradial	20	radial	0.500	1490.166	542.979
5	Value	SVMradial	40	radial	0.500	1520.031	624.520
6	Value	SVMradial	60	radial	0.500	1508.570	526.313
7	Value	SVMradial	80	radial	0.500	1506.556	600.849
8	Value	SVMradial	100	radial	0.500	1468.089	578.638
9	Value	SVMradial	1000	radial	0.500	1439.247	485.602
10	Value	SVMradial	10000	radial	0.500	1409.698	529.748
11	Value	SVMradial	0	radial	1	1494.488	598.256
12	Value	SVMradial	1	radial	1	1501.045	579.609
13	Value	SVMradial	10	radial	1	1517.893	597.811
14	Value	SVMradial	20	radial	1	1516.369	496.766
15	Value	SVMradial	40	radial	1	1494.906	478.104
16	Value	SVMradial	60	radial	1	1468.069	612.006
17	Value	SVMradial	80	radial	1	1461.369	543.791
18	Value	SVMradial	100	radial	1	1473.056	639.892
19	Value	SVMradial	1000	radial	1	1456.817	649.381
20	Value	SVMradial	10000	radial	1	1468.062	468.949
21	Value	SVMradial	0	radial	2	1502.605	566.784
22	Value	SVMradial	1	radial	2	1500.886	557.427
23	Value	SVMradial	10	radial	2	1517.199	625.862
24	Value	SVMradial	20	radial	2	1497.787	538.389
25	Value	SVMradial	40	radial	2	1466.596	598.614
26	Value	SVMradial	60	radial	2	1497.004	606.964
27	Value	SVMradial	80	radial	2	1494.859	637.836
28	Value	SVMradial	100	radial	2	1509.832	722.615
29	Value	SVMradial	1000	radial	2	1463.971	651.573
30	Value	SVMradial	10000	radial	2	1505.064	557.068
31	Value	SVMradial	0	radial	4	1483.428	507.572
32	Value	SVMradial	1	radial	4	1528.906	563.948
33	Value	SVMradial	10	radial	4	1501.241	469.731
34	Value	SVMradial	20	radial	4	1499.736	559.334
35	Value	SVMradial	40	radial	4	1502.744	627.129
36	Value	SVMradial	60	radial	4	1488.857	461.081
37	Value	SVMradial	80	radial	4	1496.753	589.022
38	Value	SVMradial	100	radial	4	1509.773	489.360
39	Value	SVMradial	1000	radial	4	1483.481	640.875
40	Value	SVMradial	10000	radial	4	1488.484	676.859
41	Value	SVMradial	0	radial	8	1511.722	525.715
42	Value	SVMradial	1	radial	8	1485.021	656.555
43	Value	SVMradial	10	radial	8	1473.524	425.142
44	Value	SVMradial	20	radial	8	1517.085	672.281
45	Value	SVMradial	40	radial	8	1523.986	563.429
46	Value	SVMradial	60	radial	8	1523.018	692.832
47	Value	SVMradial	80	radial	8	1543.993	501.473
48	Value	SVMradial	100	radial	8	1509.608	546.672
49	Value	SVMradial	1000	radial	8	1474.589	588.628
50	Value	SVMradial	10000	radial	8	1580.035	715.048

## ISO3 AZOTO

-DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.888	0.265

-RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.107	0.086
2	Value	Random For...	20	0.098	0.066
3	Value	Random For...	50	0.114	0.098 
4	Value	Random For...	100	0.104	0.075
5	Value	Random For...	200	0.105	0.077
6	Value	Random For...	500	0.104	0.071
7	Value	Random For...	1000	0.104	0.074

Analizzato:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.877	0.348
2	Value	Random For...	20	0.793	0.223
3	Value	Random For...	25	0.819	0.285
4	Value	Random For...	30	0.900	0.298
5	Value	Random For...	35	0.818	0.367
6	Value	Random For...	40	0.873	0.281
7	Value	Random For...	45	0.846	0.196
8	Value	Random For...	50	0.840	0.251
9	Value	Random For...	100	0.830	0.422
10	Value	Random For...	200	0.841	0.316
11	Value	Random For...	500	0.853	0.303
12	Value	Random For...	1000	0.819	0.233

## -SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.897	0.494
2	Value	SVMdot	1	dot	0.893	0.476
3	Value	SVMdot	10	dot	0.920	0.512
4	Value	SVMdot	100	dot	0.912	0.549
5	Value	SVMdot	1000	dot	0.879	0.517
6	Value	SVMdot	10000	dot	0.937	0.558

## -SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolynomial	0	polynomial	1	0.897	0.494
2	Value	SVMpolynomial	1	polynomial	1	0.893	0.476
3	Value	SVMpolynomial	10	polynomial	1	0.920	0.512
4	Value	SVMpolynomial	100	polynomial	1	0.912	0.549
5	Value	SVMpolynomial	1000	polynomial	1	0.879	0.517
6	Value	SVMpolynomial	10000	polynomial	1	0.937	0.558
7	Value	SVMpolynomial	0	polynomial	2	1.306	0.805
8	Value	SVMpolynomial	1	polynomial	2	1.330	0.812
9	Value	SVMpolynomial	10	polynomial	2	1.288	0.809
10	Value	SVMpolynomial	100	polynomial	2	1.339	0.810
11	Value	SVMpolynomial	1000	polynomial	2	1.340	0.825
12	Value	SVMpolynomial	10000	polynomial	2	1.364	0.874
13	Value	SVMpolynomial	0	polynomial	3	2.135	1.772
14	Value	SVMpolynomial	1	polynomial	3	4.913	4.602
15	Value	SVMpolynomial	10	polynomial	3	9.143	8.844
16	Value	SVMpolynomial	100	polynomial	3	4.683	4.363
17	Value	SVMpolynomial	1000	polynomial	3	5.391	5.056
18	Value	SVMpolynomial	10000	polynomial	3	3.890	3.547
19	Value	SVMpolynomial	0	polynomial	4	4.545	4.211
20	Value	SVMpolynomial	1	polynomial	4	4.221	3.887
21	Value	SVMpolynomial	10	polynomial	4	4.094	3.745
22	Value	SVMpolynomial	100	polynomial	4	4.142	3.798
23	Value	SVMpolynomial	1000	polynomial	4	4.029	3.691
24	Value	SVMpolynomial	10000	polynomial	4	108174.634	108173.953
25	Value	SVMpolynomial	0	polynomial	5	7.700	7.409
26	Value	SVMpolynomial	1	polynomial	5	8.566	8.280
27	Value	SVMpolynomial	10	polynomial	5	7.746	7.441
28	Value	SVMpolynomial	100	polynomial	5	7.637	7.347
29	Value	SVMpolynomial	1000	polynomial	5	7.567	7.254
30	Value	SVMpolynomial	10000	polynomial	5	7.492	7.174

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.897	0.494
2	Value	SVMpolinomial	1	polynomial	1	0.893	0.476
3	Value	SVMpolinomial	10	polynomial	1	0.920	0.512
4	Value	SVMpolinomial	20	polynomial	1	0.912	0.549
5	Value	SVMpolinomial	40	polynomial	1	0.879	0.517
6	Value	SVMpolinomial	60	polynomial	1	0.937	0.558
7	Value	SVMpolinomial	80	polynomial	1	0.903	0.451
8	Value	SVMpolinomial	100	polynomial	1	0.906	0.491
9	Value	SVMpolinomial	1000	polynomial	1	0.912	0.563
10	Value	SVMpolinomial	10000	polynomial	1	0.907	0.502
11	Value	SVMpolinomial	0	polynomial	2	1.341	0.826
12	Value	SVMpolinomial	1	polynomial	2	1.366	0.874
13	Value	SVMpolinomial	10	polynomial	2	1.318	0.878
14	Value	SVMpolinomial	20	polynomial	2	1.349	0.884
15	Value	SVMpolinomial	40	polynomial	2	1.878	1.440
16	Value	SVMpolinomial	60	polynomial	2	1.283	0.790
17	Value	SVMpolinomial	80	polynomial	2	1.360	0.823
18	Value	SVMpolinomial	100	polynomial	2	1.344	0.840
19	Value	SVMpolinomial	1000	polynomial	2	1.372	0.854
20	Value	SVMpolinomial	10000	polynomial	2	1.359	0.867
21	Value	SVMpolinomial	0	polynomial	3	2.653	2.258
22	Value	SVMpolinomial	1	polynomial	3	4.800	4.466
23	Value	SVMpolinomial	10	polynomial	3	4.733	4.402
24	Value	SVMpolinomial	20	polynomial	3	2.152	1.744
25	Value	SVMpolinomial	40	polynomial	3	3.889	3.561
26	Value	SVMpolinomial	60	polynomial	3	2.179	1.791
27	Value	SVMpolinomial	80	polynomial	3	2.062	1.638
28	Value	SVMpolinomial	100	polynomial	3	2.045	1.652
29	Value	SVMpolinomial	1000	polynomial	3	4.391	4.045
30	Value	SVMpolinomial	10000	polynomial	3	2.032	1.591
31	Value	SVMpolinomial	0	polynomial	4	4.134	3.809
32	Value	SVMpolinomial	1	polynomial	4	4.179	3.836
33	Value	SVMpolinomial	10	polynomial	4	4.242	3.936
34	Value	SVMpolinomial	20	polynomial	4	4.076	3.741
35	Value	SVMpolinomial	40	polynomial	4	4.196	3.867
36	Value	SVMpolinomial	60	polynomial	4	4.078	3.740
37	Value	SVMpolinomial	80	polynomial	4	4.035	3.714
38	Value	SVMpolinomial	100	polynomial	4	4.243	3.952
39	Value	SVMpolinomial	1000	polynomial	4	4.120	3.817
40	Value	SVMpolinomial	10000	polynomial	4	3.942	3.604
41	Value	SVMpolinomial	0	polynomial	5	8.468	8.155
42	Value	SVMpolinomial	1	polynomial	5	8.298	7.990
43	Value	SVMpolinomial	10	polynomial	5	8.468	8.169
44	Value	SVMpolinomial	20	polynomial	5	8.536	8.224
45	Value	SVMpolinomial	40	polynomial	5	8.402	8.091
46	Value	SVMpolinomial	60	polynomial	5	8.724	8.431
47	Value	SVMpolinomial	80	polynomial	5	8.323	8.025
48	Value	SVMpolinomial	100	polynomial	5	8.191	7.895
49	Value	SVMpolinomial	1000	polynomial	5	8.399	8.126
50	Value	SVMpolinomial	10000	polynomial	5	8.004	7.692

## -SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.683	0.211
2	Value	SVMradial	1	radial	0.500	0.670	0.247
3	Value	SVMradial	10	radial	0.500	0.726	0.316
4	Value	SVMradial	100	radial	0.500	0.832	0.329
5	Value	SVMradial	1000	radial	0.500	0.935	0.426
6	Value	SVMradial	10000	radial	0.500	2.012	1.528
7	Value	SVMradial	0	radial	1	0.709	0.197
8	Value	SVMradial	1	radial	1	0.724	0.330
9	Value	SVMradial	10	radial	1	0.835	0.397
10	Value	SVMradial	100	radial	1	0.853	0.276
11	Value	SVMradial	1000	radial	1	1.217	0.566
12	Value	SVMradial	10000	radial	1	2.670	2.035
13	Value	SVMradial	0	radial	2	0.773	0.311
14	Value	SVMradial	1	radial	2	0.719	0.279
15	Value	SVMradial	10	radial	2	0.889	0.314
16	Value	SVMradial	100	radial	2	0.955	0.230
17	Value	SVMradial	1000	radial	2	1.326	0.584
18	Value	SVMradial	10000	radial	2	3.253	2.523
19	Value	SVMradial	0	radial	4	0.782	0.227
20	Value	SVMradial	1	radial	4	0.808	0.256
21	Value	SVMradial	10	radial	4	0.839	0.262
22	Value	SVMradial	100	radial	4	0.954	0.271
23	Value	SVMradial	1000	radial	4	53.605	53.156
24	Value	SVMradial	10000	radial	4	352.485	339.025
25	Value	SVMradial	0	radial	8	0.844	0.293
26	Value	SVMradial	1	radial	8	0.846	0.313
27	Value	SVMradial	10	radial	8	1.000	0.281
28	Value	SVMradial	100	radial	8	3.448	2.509
29	Value	SVMradial	1000	radial	8	75.176	74.727
30	Value	SVMradial	10000	radial	8	297.420	265.644

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.683	0.211
2	Value	SVMradial	1	radial	0.500	0.670	0.247
3	Value	SVMradial	2	radial	0.500	0.676	0.293
4	Value	SVMradial	4	radial	0.500	0.761	0.327
5	Value	SVMradial	6	radial	0.500	0.760	0.345
6	Value	SVMradial	8	radial	0.500	0.787	0.251
7	Value	SVMradial	10	radial	0.500	0.736	0.196
8	Value	SVMradial	20	radial	0.500	0.733	0.308
9	Value	SVMradial	40	radial	0.500	0.816	0.407
10	Value	SVMradial	60	radial	0.500	0.779	0.318
11	Value	SVMradial	80	radial	0.500	0.825	0.302
12	Value	SVMradial	100	radial	0.500	0.801	0.229
13	Value	SVMradial	1000	radial	0.500	0.912	0.403
14	Value	SVMradial	2000	radial	0.500	1.282	0.721
15	Value	SVMradial	4000	radial	0.500	1.538	1.038
16	Value	SVMradial	6000	radial	0.500	1.995	1.410
17	Value	SVMradial	8000	radial	0.500	1.963	1.467
18	Value	SVMradial	10000	radial	0.500	2.685	2.227
19	Value	SVMradial	0	radial	1	0.689	0.227
20	Value	SVMradial	1	radial	1	0.710	0.257
21	Value	SVMradial	2	radial	1	0.772	0.300
22	Value	SVMradial	4	radial	1	0.740	0.327
23	Value	SVMradial	6	radial	1	0.792	0.262
24	Value	SVMradial	8	radial	1	0.767	0.291
25	Value	SVMradial	10	radial	1	0.802	0.336
26	Value	SVMradial	20	radial	1	0.851	0.316
27	Value	SVMradial	40	radial	1	0.868	0.302
28	Value	SVMradial	60	radial	1	0.849	0.330
29	Value	SVMradial	80	radial	1	0.795	0.228
30	Value	SVMradial	100	radial	1	0.851	0.343
31	Value	SVMradial	1000	radial	1	1.158	0.449
32	Value	SVMradial	2000	radial	1	1.282	0.660
33	Value	SVMradial	4000	radial	1	1.984	1.407
34	Value	SVMradial	6000	radial	1	1.293	0.699
35	Value	SVMradial	8000	radial	1	1.790	1.334
36	Value	SVMradial	10000	radial	1	2.686	2.058
37	Value	SVMradial	0	radial	2	0.697	0.266
38	Value	SVMradial	1	radial	2	0.759	0.291
39	Value	SVMradial	2	radial	2	0.808	0.342
40	Value	SVMradial	4	radial	2	0.789	0.266
41	Value	SVMradial	6	radial	2	0.831	0.281
42	Value	SVMradial	8	radial	2	0.776	0.285
43	Value	SVMradial	10	radial	2	0.783	0.168
44	Value	SVMradial	20	radial	2	0.875	0.331
45	Value	SVMradial	40	radial	2	0.909	0.237
46	Value	SVMradial	60	radial	2	0.917	0.369
47	Value	SVMradial	80	radial	2	0.951	0.331
48	Value	SVMradial	100	radial	2	0.970	0.339
49	Value	SVMradial	1000	radial	2	1.009	0.473

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
50	Value	SVMradial	2000	radial	2	1.342	0.613
51	Value	SVMradial	4000	radial	2	1.546	0.780
52	Value	SVMradial	6000	radial	2	2.122	1.472
53	Value	SVMradial	8000	radial	2	3.746	3.316
54	Value	SVMradial	10000	radial	2	243.467	243.023
55	Value	SVMradial	0	radial	4	0.767	0.347
56	Value	SVMradial	1	radial	4	0.736	0.225
57	Value	SVMradial	2	radial	4	0.818	0.314
58	Value	SVMradial	4	radial	4	0.908	0.356
59	Value	SVMradial	6	radial	4	0.880	0.255
60	Value	SVMradial	8	radial	4	0.878	0.342
61	Value	SVMradial	10	radial	4	0.904	0.271
62	Value	SVMradial	20	radial	4	0.934	0.348
63	Value	SVMradial	40	radial	4	5.314	4.934
64	Value	SVMradial	60	radial	4	0.970	0.195
65	Value	SVMradial	80	radial	4	1.069	0.381
66	Value	SVMradial	100	radial	4	1.091	0.317
67	Value	SVMradial	1000	radial	4	1.269	0.560
68	Value	SVMradial	2000	radial	4	57.461	56.921
69	Value	SVMradial	4000	radial	4	4.668	3.831
70	Value	SVMradial	6000	radial	4	81.169	75.335
71	Value	SVMradial	8000	radial	4	166.518	156.539
72	Value	SVMradial	10000	radial	4	307.924	289.727
73	Value	SVMradial	0	radial	8	0.875	0.346
74	Value	SVMradial	1	radial	8	0.850	0.253
75	Value	SVMradial	2	radial	8	0.919	0.289
76	Value	SVMradial	4	radial	8	0.905	0.227
77	Value	SVMradial	6	radial	8	0.990	0.179
78	Value	SVMradial	8	radial	8	0.996	0.302
79	Value	SVMradial	10	radial	8	1.033	0.374
80	Value	SVMradial	20	radial	8	4.966	4.571
81	Value	SVMradial	40	radial	8	1.363	0.717
82	Value	SVMradial	60	radial	8	12.526	12.153
83	Value	SVMradial	80	radial	8	1.167	0.434
84	Value	SVMradial	100	radial	8	5.413	4.971
85	Value	SVMradial	1000	radial	8	32.651	31.871
86	Value	SVMradial	2000	radial	8	130.786	129.058
87	Value	SVMradial	4000	radial	8	232.389	207.847
88	Value	SVMradial	6000	radial	8	528.226	492.271
89	Value	SVMradial	8000	radial	8	483.775	419.905
90	Value	SVMradial	10000	radial	8	263.479	248.986

## ISO3 CLORO

-DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.113	0.092

-RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.107	0.086
2	Value	Random For...	20	0.098	0.066
3	Value	Random For...	50	0.114	0.098
4	Value	Random For...	100	0.104	0.075
5	Value	Random For...	200	0.105	0.077
6	Value	Random For...	500	0.104	0.071
7	Value	Random For...	1000	0.104	0.074

-SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1.836	1.074
2	Value	SVMdot	1	dot	2.040	1.456
3	Value	SVMdot	10	dot	19.457	13.448
4	Value	SVMdot	100	dot	207.804	144.017
5	Value	SVMdot	1000	dot	1914.842	1207.693
6	Value	SVMdot	10000	dot	19073.598	10814.165

## -SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.114	0.102
2	Value	SVMpolinomial	1	polynomial	1	0.113	0.091
3	Value	SVMpolinomial	10	polynomial	1	0.114	0.102
4	Value	SVMpolinomial	100	polynomial	1	0.113	0.094
5	Value	SVMpolinomial	1000	polynomial	1	0.113	0.095
6	Value	SVMpolinomial	10000	polynomial	1	0.113	0.086
7	Value	SVMpolinomial	0	polynomial	2	0.114	0.088
8	Value	SVMpolinomial	1	polynomial	2	0.112	0.091
9	Value	SVMpolinomial	10	polynomial	2	0.113	0.079
10	Value	SVMpolinomial	100	polynomial	2	0.115	0.085
11	Value	SVMpolinomial	1000	polynomial	2	0.119	0.092
12	Value	SVMpolinomial	10000	polynomial	2	0.115	0.092
13	Value	SVMpolinomial	0	polynomial	3	0.110	0.087
14	Value	SVMpolinomial	1	polynomial	3	0.077	0.047
15	Value	SVMpolinomial	10	polynomial	3	0.076	0.050
16	Value	SVMpolinomial	100	polynomial	3	0.085	0.065
17	Value	SVMpolinomial	1000	polynomial	3	0.105	0.080
18	Value	SVMpolinomial	10000	polynomial	3	0.139	0.111
19	Value	SVMpolinomial	0	polynomial	4	0.105	0.080
20	Value	SVMpolinomial	1	polynomial	4	0.107	0.084
21	Value	SVMpolinomial	10	polynomial	4	0.107	0.090
22	Value	SVMpolinomial	100	polynomial	4	0.107	0.084
23	Value	SVMpolinomial	1000	polynomial	4	0.105	0.090
24	Value	SVMpolinomial	10000	polynomial	4	0.476	0.432
25	Value	SVMpolinomial	0	polynomial	5	0.431	0.444
26	Value	SVMpolinomial	1	polynomial	5	2.893	2.759
27	Value	SVMpolinomial	10	polynomial	5	0.448	0.415
28	Value	SVMpolinomial	100	polynomial	5	0.068	0.054
29	Value	SVMpolinomial	1000	polynomial	5	0.743	0.651
30	Value	SVMpolinomial	10000	polynomial	5	80.448	77.056

## -SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviatio
1	Value	SVMradial	0	radial	0.500	0.107	0.093
2	Value	SVMradial	1	radial	0.500	0.098	0.073
3	Value	SVMradial	10	radial	0.500	1.866	1.764
4	Value	SVMradial	100	radial	0.500	26.461	24.261
5	Value	SVMradial	1000	radial	0.500	16.048	15.346
6	Value	SVMradial	10000	radial	0.500	286.805	275.052
7	Value	SVMradial	0	radial	1	0.107	0.082
8	Value	SVMradial	1	radial	1	0.146	0.118
9	Value	SVMradial	10	radial	1	0.603	0.619
10	Value	SVMradial	100	radial	1	13.699	12.664
11	Value	SVMradial	1000	radial	1	137.491	122.894
12	Value	SVMradial	10000	radial	1	0.228	0.222
13	Value	SVMradial	0	radial	2	0.117	0.094
14	Value	SVMradial	1	radial	2	0.110	0.074
15	Value	SVMradial	10	radial	2	0.952	0.790
16	Value	SVMradial	100	radial	2	4.466	3.857
17	Value	SVMradial	1000	radial	2	52.491	49.075
18	Value	SVMradial	10000	radial	2	525.919	503.949
19	Value	SVMradial	0	radial	4	0.149	0.113
20	Value	SVMradial	1	radial	4	0.121	0.080
21	Value	SVMradial	10	radial	4	0.814	0.800
22	Value	SVMradial	100	radial	4	4.805	4.592
23	Value	SVMradial	1000	radial	4	25.956	24.647
24	Value	SVMradial	10000	radial	4	0.170	0.135
25	Value	SVMradial	0	radial	8	0.181	0.111
26	Value	SVMradial	1	radial	8	0.146	0.096
27	Value	SVMradial	10	radial	8	0.242	0.213
28	Value	SVMradial	100	radial	8	4.553	4.414
29	Value	SVMradial	1000	radial	8	60.133	64.171
30	Value	SVMradial	10000	radial	8	545.421	501.703

## **ISO3 ZOLFO**

-DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.060	0.024

-RANDOOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.052	0.020
2	Value	Random Forest	20	0.055	0.023
3	Value	Random Forest	50	0.056	0.024
4	Value	Random Forest	100	0.053	0.019
5	Value	Random Forest	200	0.053	0.020
6	Value	Random Forest	500	0.054	0.017
7	Value	Random Forest	1000	0.054	0.018

-SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1.140	0.695
2	Value	SVMdot	1	dot	1.341	0.934
3	Value	SVMdot	10	dot	13.229	9.936
4	Value	SVMdot	100	dot	87.713	37.259
5	Value	SVMdot	1000	dot	1297.555	881.858
6	Value	SVMdot	10000	dot	13351.497	8242.827

**Analizzato:**

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1.140	0.695
2	Value	SVMdot	1	dot	1.341	0.934
3	Value	SVMdot	2	dot	2.634	1.967
4	Value	SVMdot	4	dot	3.509	1.466
5	Value	SVMdot	6	dot	7.769	5.256
6	Value	SVMdot	8	dot	10.660	6.556
7	Value	SVMdot	10	dot	13.016	8.471
8	Value	SVMdot	100	dot	121.704	72.540
9	Value	SVMdot	1000	dot	1297.093	800.417
10	Value	SVMdot	10000	dot	12413.833	7958.224

## -SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.060	0.024
2	Value	SVMpolinomial	1	polynomial	1	0.064	0.020
3	Value	SVMpolinomial	10	polynomial	1	0.062	0.023
4	Value	SVMpolinomial	100	polynomial	1	0.061	0.020
5	Value	SVMpolinomial	1000	polynomial	1	0.062	0.025
6	Value	SVMpolinomial	10000	polynomial	1	0.065	0.023
7	Value	SVMpolinomial	0	polynomial	2	0.081	0.021
8	Value	SVMpolinomial	1	polynomial	2	0.098	0.038
9	Value	SVMpolinomial	10	polynomial	2	0.086	0.019
10	Value	SVMpolinomial	100	polynomial	2	0.083	0.021
11	Value	SVMpolinomial	1000	polynomial	2	0.096	0.025
12	Value	SVMpolinomial	10000	polynomial	2	0.100	0.037
13	Value	SVMpolinomial	0	polynomial	3	0.208	0.161
14	Value	SVMpolinomial	1	polynomial	3	0.155	0.107
15	Value	SVMpolinomial	10	polynomial	3	0.156	0.108
16	Value	SVMpolinomial	100	polynomial	3	0.142	0.090
17	Value	SVMpolinomial	1000	polynomial	3	0.143	0.096
18	Value	SVMpolinomial	10000	polynomial	3	68659.328	58840.032
19	Value	SVMpolinomial	0	polynomial	4	0.153	0.101
20	Value	SVMpolinomial	1	polynomial	4	0.156	0.103
21	Value	SVMpolinomial	10	polynomial	4	0.168	0.129
22	Value	SVMpolinomial	100	polynomial	4	0.166	0.116
23	Value	SVMpolinomial	1000	polynomial	4	0.217	0.192
24	Value	SVMpolinomial	10000	polynomial	4	0.227	0.095
25	Value	SVMpolinomial	0	polynomial	5	0.421	0.420
26	Value	SVMpolinomial	1	polynomial	5	0.412	0.360
27	Value	SVMpolinomial	10	polynomial	5	0.354	0.304
28	Value	SVMpolinomial	100	polynomial	5	0.436	0.385
29	Value	SVMpolinomial	1000	polynomial	5	0.961	0.892
30	Value	SVMpolinomial	10000	polynomial	5	0.338	0.228

## **ISO5 PCS:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	2258.319	1594.060

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	1543.342	1519.531
2	Value	Random Forest	20	1591.970	1215.175
3	Value	Random Forest	50	1613.063	1272.406
4	Value	Random Forest	100	1629.794	1246.596
5	Value	Random Forest	200	1590.657	1232.862
6	Value	Random Forest	500	1592.916	1244.389
7	Value	Random Forest	1000	1620.781	1228.982

SVMDOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1917.120	1336.404
2	Value	SVMdot	1	dot	1885.243	1419.302
3	Value	SVMdot	10	dot	1383.126	908.666
4	Value	SVMdot	100	dot	634.298	364.181
5	Value	SVMdot	1000	dot	556.766	299.008
6	Value	SVMdot	10000	dot	521.244	180.089

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1908.352	1357.488
2	Value	SVMpolinomial	1	polynomial	1	1866.043	1330.913
3	Value	SVMpolinomial	10	polynomial	1	1335.683	856.486
4	Value	SVMpolinomial	100	polynomial	1	688.283	328.584
5	Value	SVMpolinomial	1000	polynomial	1	529.929	193.653
6	Value	SVMpolinomial	10000	polynomial	1	515.741	146.745
7	Value	SVMpolinomial	0	polynomial	2	1919.216	1401.570
8	Value	SVMpolinomial	1	polynomial	2	1823.463	1354.488
9	Value	SVMpolinomial	10	polynomial	2	2190.187	1620.106
10	Value	SVMpolinomial	100	polynomial	2	4268.092	3573.041
11	Value	SVMpolinomial	1000	polynomial	2	7776.992	7935.593
12	Value	SVMpolinomial	10000	polynomial	2	6574.597	6754.890
13	Value	SVMpolinomial	0	polynomial	3	1712.715	1191.131
14	Value	SVMpolinomial	1	polynomial	3	22817.551	22037.231
15	Value	SVMpolinomial	10	polynomial	3	20982.017	20169.265
16	Value	SVMpolinomial	100	polynomial	3	28180.558	27005.994

17	Value	SVMpolinomial	1000	polynomial	3	73161.219	67736.852
18	Value	SVMpolinomial	10000	polynomial	3	8545992.811	8353909.696
19	Value	SVMpolinomial	0	polynomial	4	1764.290	1324.486
20	Value	SVMpolinomial	1	polynomial	4	146737.369	143273.195
21	Value	SVMpolinomial	10	polynomial	4	92966.683	90208.884
22	Value	SVMpolinomial	100	polynomial	4	32848.964	31389.025
23	Value	SVMpolinomial	1000	polynomial	4	137698.633	132846.784
24	Value	SVMpolinomial	10000	polynomial	4	62547036.658	60682420.678
25	Value	SVMpolinomial	0	polynomial	5	1053.224	391.338
26	Value	SVMpolinomial	1	polynomial	5	209563.353	205371.133
27	Value	SVMpolinomial	10	polynomial	5	388393.159	379918.507
28	Value	SVMpolinomial	100	polynomial	5	3701413.199	3613753.891
29	Value	SVMpolinomial	1000	polynomial	5	9483029026....	9323565176....
30	Value	SVMpolinomial	10000	polynomial	5	18556022.275	17284264.693

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1959.312	1400.128
2	Value	SVMradial	1	radial	0.500	1938.533	1445.121
3	Value	SVMradial	10	radial	0.500	1981.443	1839.417
4	Value	SVMradial	100	radial	0.500	1850.189	1442.837
5	Value	SVMradial	1000	radial	0.500	1775.404	1534.170
6	Value	SVMradial	10000	radial	0.500	2222.732	1866.209
7	Value	SVMradial	0	radial	1	1957.857	1433.875
8	Value	SVMradial	1	radial	1	1954.411	1438.705
9	Value	SVMradial	10	radial	1	1917.001	1440.245
10	Value	SVMradial	100	radial	1	1878.158	1419.530
11	Value	SVMradial	1000	radial	1	1800.430	1498.774
12	Value	SVMradial	10000	radial	1	1861.473	1488.252
13	Value	SVMradial	0	radial	2	1961.686	1439.742
14	Value	SVMradial	1	radial	2	1924.417	1447.478
15	Value	SVMradial	10	radial	2	1906.184	1426.007
16	Value	SVMradial	100	radial	2	1887.778	1528.453
17	Value	SVMradial	1000	radial	2	1832.262	1460.939
18	Value	SVMradial	10000	radial	2	1956.445	1457.038
19	Value	SVMradial	0	radial	4	1939.598	1410.125
20	Value	SVMradial	1	radial	4	1901.680	1439.841
21	Value	SVMradial	10	radial	4	1962.276	1400.811
22	Value	SVMradial	100	radial	4	1909.792	1432.958
23	Value	SVMradial	1000	radial	4	1863.210	1791.622
24	Value	SVMradial	10000	radial	4	1920.481	1454.885
25	Value	SVMradial	0	radial	8	1919.648	1411.652

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1947.685	1413.538
2	Value	SVMradial	1	radial	0.500	1952.056	1776.896
3	Value	SVMradial	10	radial	0.500	1911.965	1385.471
4	Value	SVMradial	100	radial	0.500	1917.103	1525.113
5	Value	SVMradial	1000	radial	0.500	1796.168	1483.963
6	Value	SVMradial	2000	radial	0.500	1779.275	1489.215
7	Value	SVMradial	4000	radial	0.500	1791.348	1497.873
8	Value	SVMradial	6000	radial	0.500	1822.821	1451.776
9	Value	SVMradial	8000	radial	0.500	1838.955	1466.083
10	Value	SVMradial	10000	radial	0.500	1936.183	1514.904
11	Value	SVMradial	0	radial	1	1984.655	1832.379
12	Value	SVMradial	1	radial	1	1918.221	1387.157
13	Value	SVMradial	10	radial	1	1893.218	1450.593
14	Value	SVMradial	100	radial	1	1844.544	1382.348
15	Value	SVMradial	1000	radial	1	1822.138	1453.663
16	Value	SVMradial	2000	radial	1	1800.138	1488.363
17	Value	SVMradial	4000	radial	1	1802.446	1492.067
18	Value	SVMradial	6000	radial	1	1825.153	1464.181
19	Value	SVMradial	8000	radial	1	1818.500	1488.901
20	Value	SVMradial	10000	radial	1	1861.473	1488.252
21	Value	SVMradial	0	radial	2	1961.686	1439.742
22	Value	SVMradial	1	radial	2	1924.417	1447.478
23	Value	SVMradial	10	radial	2	1906.184	1426.007
24	Value	SVMradial	100	radial	2	1887.778	1528.453
25	Value	SVMradial	1000	radial	2	1832.262	1460.939
26	Value	SVMradial	2000	radial	2	1825.546	1512.347
27	Value	SVMradial	4000	radial	2	1869.786	1507.092
28	Value	SVMradial	6000	radial	2	1808.317	1510.604
29	Value	SVMradial	8000	radial	2	1873.901	1470.568

ExampleSet (29 examples, 1 special attribute, 6 regular attributes)

## ISO5 PCI:

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	2113.148	1492.961

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	1479.407	1431.702
2	Value	Random Forest	20	1538.382	1146.546
3	Value	Random Forest	50	1509.899	1187.515
4	Value	Random Forest	100	1536.848	1164.835
5	Value	Random Forest	200	1496.490	1154.083
6	Value	Random Forest	500	1497.621	1163.667
7	Value	Random Forest	1000	1523.892	1146.884

SVMDOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMDot	0	dot	1800.170	1305.237
2	Value	SVMDot	1	dot	1741.938	1570.461
3	Value	SVMDot	10	dot	1248.497	812.236
4	Value	SVMDot	100	dot	793.686	472.808
5	Value	SVMDot	1000	dot	505.236	227.872
6	Value	SVMDot	10000	dot	473.861	199.403

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1800.170	1305.237
2	Value	SVMpolinomial	1	polynomial	1	1741.938	1570.461
3	Value	SVMpolinomial	10	polynomial	1	1248.497	812.236
4	Value	SVMpolinomial	100	polynomial	1	793.686	472.808
5	Value	SVMpolinomial	1000	polynomial	1	505.236	227.872
6	Value	SVMpolinomial	10000	polynomial	1	473.861	199.403
7	Value	SVMpolinomial	0	polynomial	2	1829.808	1303.932
8	Value	SVMpolinomial	1	polynomial	2	1661.276	1211.488
9	Value	SVMpolinomial	10	polynomial	2	1866.188	1151.987
10	Value	SVMpolinomial	100	polynomial	2	4710.343	3922.774
11	Value	SVMpolinomial	1000	polynomial	2	6215.238	6534.610
12	Value	SVMpolinomial	10000	polynomial	2	7215.404	6736.243
13	Value	SVMpolinomial	0	polynomial	3	1605.483	1167.897
14	Value	SVMpolinomial	1	polynomial	3	21562.031	20776.936
15	Value	SVMpolinomial	10	polynomial	3	21762.013	20926.458
16	Value	SVMpolinomial	100	polynomial	3	31793.635	29989.593
17	Value	SVMpolinomial	1000	polynomial	3	11223946.930	11029164.471
18	Value	SVMpolinomial	10000	polynomial	3	214264672.2...	209920969.8...

19	Value	SVMpolinomial	0	polynomial	4	1579.305	1141.493
20	Value	SVMpolinomial	1	polynomial	4	63777.500	61686.453
21	Value	SVMpolinomial	10	polynomial	4	71662.292	66747.057
22	Value	SVMpolinomial	100	polynomial	4	92923.676	86693.908
23	Value	SVMpolinomial	1000	polynomial	4	71191396.125	69990693.307
24	Value	SVMpolinomial	10000	polynomial	4	1608456.621	1551340.266
25	Value	SVMpolinomial	0	polynomial	5	976.001	389.969
26	Value	SVMpolinomial	1	polynomial	5	171730.127	167784.911
27	Value	SVMpolinomial	10	polynomial	5	401959.565	392261.200
28	Value	SVMpolinomial	100	polynomial	5	32026112.431	31468991.295
29	Value	SVMpolinomial	1000	polynomial	5	7223760367....	7102280682....
30	Value	SVMpolinomial	10000	polynomial	5	14705966.091	13908917.572

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1818.568	1323.020
2	Value	SVMradial	1	radial	0.500	1823.580	1666.377
3	Value	SVMradial	10	radial	0.500	1785.702	1295.512
4	Value	SVMradial	100	radial	0.500	1756.362	1431.172
5	Value	SVMradial	1000	radial	0.500	1684.593	1378.830
6	Value	SVMradial	10000	radial	0.500	1921.323	1394.313
7	Value	SVMradial	0	radial	1	1848.702	1324.874
8	Value	SVMradial	1	radial	1	1816.167	1330.461
9	Value	SVMradial	10	radial	1	1823.287	1310.424
10	Value	SVMradial	100	radial	1	1740.361	1394.863
11	Value	SVMradial	1000	radial	1	1700.806	1708.468
12	Value	SVMradial	10000	radial	1	1655.016	1305.365
13	Value	SVMradial	0	radial	2	1773.820	1350.807
14	Value	SVMradial	1	radial	2	1801.265	1296.777
15	Value	SVMradial	10	radial	2	1827.780	1337.260
16	Value	SVMradial	100	radial	2	1769.897	1340.526
17	Value	SVMradial	1000	radial	2	1714.924	1379.088
18	Value	SVMradial	10000	radial	2	1761.295	1371.124
19	Value	SVMradial	0	radial	4	1790.922	1370.048
20	Value	SVMradial	1	radial	4	1823.367	1321.514
21	Value	SVMradial	10	radial	4	1832.509	1344.658
22	Value	SVMradial	100	radial	4	1765.540	1327.894
23	Value	SVMradial	1000	radial	4	1734.304	1339.060

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1818.568	1323.020
2	Value	SVMradial	1	radial	0.500	1823.580	1666.377
3	Value	SVMradial	10	radial	0.500	1785.702	1295.512
4	Value	SVMradial	100	radial	0.500	1756.362	1431.172
5	Value	SVMradial	1000	radial	0.500	1684.593	1378.830
6	Value	SVMradial	2000	radial	0.500	1676.815	1377.671
7	Value	SVMradial	4000	radial	0.500	1687.563	1396.469
8	Value	SVMradial	6000	radial	0.500	1716.358	1345.648
9	Value	SVMradial	8000	radial	0.500	1724.625	1369.937
10	Value	SVMradial	10000	radial	0.500	1894.158	1429.364
11	Value	SVMradial	0	radial	1	1859.262	1718.543
12	Value	SVMradial	1	radial	1	1791.448	1295.393
13	Value	SVMradial	10	radial	1	1768.558	1352.828
14	Value	SVMradial	100	radial	1	1721.009	1316.672
15	Value	SVMradial	1000	radial	1	1709.989	1342.547
16	Value	SVMradial	2000	radial	1	1694.655	1375.821
17	Value	SVMradial	4000	radial	1	1727.973	1423.078
18	Value	SVMradial	6000	radial	1	1699.132	1373.669
19	Value	SVMradial	8000	radial	1	1708.217	1381.950
20	Value	SVMradial	10000	radial	1	1749.973	1384.545
21	Value	SVMradial	0	radial	2	1833.677	1343.235
22	Value	SVMradial	1	radial	2	1798.476	1350.098
23	Value	SVMradial	10	radial	2	1779.641	1328.453
24	Value	SVMradial	100	radial	2	1770.071	1423.529
25	Value	SVMradial	1000	radial	2	1715.258	1352.608
26	Value	SVMradial	2000	radial	2	1712.725	1401.914
27	Value	SVMradial	4000	radial	2	1766.653	1390.179
28	Value	SVMradial	6000	radial	2	1698.024	1400.127
29	Value	SVMradial	8000	radial	2	1758.450	1373.860
30	Value	SVMradial	10000	radial	2	1735.102	1399.185
31	Value	SVMradial	0	radial	4	1816.552	1651.881
32	Value	SVMradial	1	radial	4	1832.240	1272.830
33	Value	SVMradial	10	radial	4	1792.441	1309.296
34	Value	SVMradial	100	radial	4	1748.468	1378.678
35	Value	SVMradial	1000	radial	4	1747.968	1444.479
36	Value	SVMradial	2000	radial	4	1749.680	1332.827
37	Value	SVMradial	4000	radial	4	1755.905	1342.555
38	Value	SVMradial	6000	radial	4	1729.955	1414.939
39	Value	SVMradial	8000	radial	4	1786.764	1357.567
40	Value	SVMradial	10000	radial	4	1771.540	1329.202
41	Value	SVMradial	0	radial	8	1804.544	1282.836
42	Value	SVMradial	1	radial	8	1823.185	1290.554
43	Value	SVMradial	10	radial	8	1806.369	1332.692
44	Value	SVMradial	100	radial	8	1778.939	1330.064
45	Value	SVMradial	1000	radial	8	1742.048	1357.474
46	Value	SVMradial	2000	radial	8	1771.628	1334.146
47	Value	SVMradial	4000	radial	8	1750.866	1699.959
48	Value	SVMradial	6000	radial	8	1751.897	1384.510
49	Value	SVMradial	8000	radial	8	1810.368	1704.173
50	Value	SVMradial	10000	radial	8	1784.934	1433.978

ExampleSet (50 examples, 1 special attribute, 6 regular attributes)

## **ISO5 CLORO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.155	0.069

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.138	0.086
2	Value	Random Forest	20	0.142	0.078
3	Value	Random Forest	50	0.124	0.081
4	Value	Random Forest	100	0.127	0.068
5	Value	Random Forest	200	0.136	0.094
6	Value	Random Forest	500	0.128	0.072
7	Value	Random Forest	1000	0.131	0.076

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.191	0.092
2	Value	SVMdot	1	dot	0.203	0.110
3	Value	SVMdot	10	dot	0.190	0.102
4	Value	SVMdot	100	dot	0.199	0.104
5	Value	SVMdot	1000	dot	0.200	0.125
6	Value	SVMdot	10000	dot	0.179	0.087

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.191	0.092
2	Value	SVMpolinomial	1	polynomial	1	0.203	0.110
3	Value	SVMpolinomial	10	polynomial	1	0.190	0.102
4	Value	SVMpolinomial	100	polynomial	1	0.199	0.104
5	Value	SVMpolinomial	1000	polynomial	1	0.200	0.125
6	Value	SVMpolinomial	10000	polynomial	1	0.179	0.087
7	Value	SVMpolinomial	0	polynomial	2	0.326	0.238
8	Value	SVMpolinomial	1	polynomial	2	14.883	14.566
9	Value	SVMpolinomial	10	polynomial	2	0.643	0.509
10	Value	SVMpolinomial	100	polynomial	2	80.956	78.215
11	Value	SVMpolinomial	1000	polynomial	2	303.924	288.682
12	Value	SVMpolinomial	10000	polynomial	2	1.837	1.743
13	Value	SVMpolinomial	0	polynomial	3	0.803	0.730
14	Value	SVMpolinomial	1	polynomial	3	6.008	5.664
15	Value	SVMpolinomial	10	polynomial	3	10148.940	9965.008
16	Value	SVMpolinomial	100	polynomial	3	1177.657	1411.258
17	Value	SVMpolinomial	1000	polynomial	3	280175.046	272713.626
18	Value	SVMpolinomial	10000	polynomial	3	4.792	4.509
19	Value	SVMpolinomial	0	polynomial	4	1.962	1.870
20	Value	SVMpolinomial	1	polynomial	4	67.244	65.528
21	Value	SVMpolinomial	10	polynomial	4	15909.522	15628.517
22	Value	SVMpolinomial	100	polynomial	4	1819.319	1711.863
23	Value	SVMpolinomial	1000	polynomial	4	2220.798	2034.245
24	Value	SVMpolinomial	10000	polynomial	4	159865.813	156570.076
25	Value	SVMpolinomial	0	polynomial	5	2.808	2.715
26	Value	SVMpolinomial	1	polynomial	5	1552.326	1456.853
27	Value	SVMpolinomial	10	polynomial	5	2604.596	2522.292
28	Value	SVMpolinomial	100	polynomial	5	22422.511	20921.659
29	Value	SVMpolinomial	1000	polynomial	5	19690.343	17881.912
30	Value	SVMpolinomial	10000	polynomial	5	25913.034	24169.902

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.174	0.095
2	Value	SVMradial	1	radial	0.500	0.178	0.091
3	Value	SVMradial	10	radial	0.500	1.437	1.193
4	Value	SVMradial	100	radial	0.500	5.671	5.492
5	Value	SVMradial	1000	radial	0.500	0.290	0.111
6	Value	SVMradial	10000	radial	0.500	0.279	0.115
7	Value	SVMradial	0	radial	1	0.153	0.086
8	Value	SVMradial	1	radial	1	0.170	0.073
9	Value	SVMradial	10	radial	1	0.184	0.069
10	Value	SVMradial	100	radial	1	0.228	0.089
11	Value	SVMradial	1000	radial	1	0.221	0.095
12	Value	SVMradial	10000	radial	1	0.205	0.090
13	Value	SVMradial	0	radial	2	0.175	0.089
14	Value	SVMradial	1	radial	2	0.174	0.075
15	Value	SVMradial	10	radial	2	0.193	0.090
16	Value	SVMradial	100	radial	2	0.196	0.082
17	Value	SVMradial	1000	radial	2	0.186	0.070
18	Value	SVMradial	10000	radial	2	0.195	0.087
19	Value	SVMradial	0	radial	4	0.171	0.092
20	Value	SVMradial	1	radial	4	0.168	0.075
21	Value	SVMradial	10	radial	4	0.172	0.064
22	Value	SVMradial	100	radial	4	0.159	0.066
23	Value	SVMradial	1000	radial	4	0.162	0.067
24	Value	SVMradial	10000	radial	4	0.167	0.087
25	Value	SVMradial	0	radial	8	0.156	0.085
26	Value	SVMradial	1	radial	8	0.154	0.074
27	Value	SVMradial	10	radial	8	0.152	0.088

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.174	0.095
2	Value	SVMradial	1	radial	0.500	0.178	0.091
3	Value	SVMradial	2	radial	0.500	0.144	0.086
4	Value	SVMradial	4	radial	0.500	0.157	0.064
5	Value	SVMradial	6	radial	0.500	0.204	0.093
6	Value	SVMradial	8	radial	0.500	0.466	0.396
7	Value	SVMradial	10	radial	0.500	0.278	0.227
8	Value	SVMradial	100	radial	0.500	7.599	6.949
9	Value	SVMradial	1000	radial	0.500	0.248	0.103
10	Value	SVMradial	10000	radial	0.500	0.280	0.127
11	Value	SVMradial	0	radial	1	0.157	0.078
12	Value	SVMradial	1	radial	1	0.144	0.077
13	Value	SVMradial	2	radial	1	0.283	0.210
14	Value	SVMradial	4	radial	1	0.203	0.083
15	Value	SVMradial	6	radial	1	0.575	0.579
16	Value	SVMradial	8	radial	1	0.216	0.088
17	Value	SVMradial	10	radial	1	0.342	0.265
18	Value	SVMradial	100	radial	1	0.256	0.119

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.174	0.095
2	Value	SVMradial	1	radial	0.500	0.178	0.091
3	Value	SVMradial	10	radial	0.500	1.437	1.193
4	Value	SVMradial	100	radial	0.500	5.671	5.492
5	Value	SVMradial	200	radial	0.500	0.291	0.111
6	Value	SVMradial	400	radial	0.500	0.279	0.115
7	Value	SVMradial	600	radial	0.500	0.240	0.105
8	Value	SVMradial	800	radial	0.500	0.267	0.107
9	Value	SVMradial	1000	radial	0.500	0.248	0.103
10	Value	SVMradial	10000	radial	0.500	0.280	0.127
11	Value	SVMradial	0	radial	1	0.157	0.078
12	Value	SVMradial	1	radial	1	0.144	0.077
13	Value	SVMradial	10	radial	1	0.939	0.772
14	Value	SVMradial	100	radial	1	0.229	0.091
15	Value	SVMradial	200	radial	1	0.228	0.089
16	Value	SVMradial	400	radial	1	0.233	0.103
17	Value	SVMradial	600	radial	1	0.213	0.094
18	Value	SVMradial	800	radial	1	0.256	0.119

ExampleSet (50 examples, 1 special attribute, 6 regular attributes)

## ISO5 ZOLFO:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.076	0.036

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.063	0.033
2	Value	Random Forest	20	0.058	0.026
3	Value	Random Forest	50	0.054	0.029
4	Value	Random Forest	100	0.062	0.035
5	Value	Random Forest	200	0.056	0.032
6	Value	Random Forest	500	0.055	0.024
7	Value	Random Forest	1000	0.055	0.027

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.063	0.034
2	Value	SVMdot	1	dot	0.059	0.035
3	Value	SVMdot	10	dot	0.065	0.036
4	Value	SVMdot	100	dot	0.069	0.036
5	Value	SVMdot	1000	dot	0.068	0.041
6	Value	SVMdot	10000	dot	0.060	0.037

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMPolinomial	0	polynomial	1	0.063	0.034
2	Value	SVMPolinomial	1	polynomial	1	0.059	0.035
3	Value	SVMPolinomial	10	polynomial	1	0.065	0.036
4	Value	SVMPolinomial	100	polynomial	1	0.069	0.036
5	Value	SVMPolinomial	1000	polynomial	1	0.068	0.041
6	Value	SVMPolinomial	10000	polynomial	1	0.060	0.037
7	Value	SVMPolinomial	0	polynomial	2	0.071	0.042
8	Value	SVMPolinomial	1	polynomial	2	0.086	0.037
9	Value	SVMPolinomial	10	polynomial	2	0.842	0.779
10	Value	SVMPolinomial	100	polynomial	2	679.113	667.000
11	Value	SVMPolinomial	1000	polynomial	2	80625.247	93725.797
12	Value	SVMPolinomial	10000	polynomial	2	0.409	0.373
13	Value	SVMPolinomial	0	polynomial	3	0.575	0.534
14	Value	SVMPolinomial	1	polynomial	3	7.825	7.190
15	Value	SVMPolinomial	10	polynomial	3	38.541	34.357
16	Value	SVMPolinomial	100	polynomial	3	68259.686	67109.966
17	Value	SVMPolinomial	1000	polynomial	3	463.501	438.322
18	Value	SVMPolinomial	10000	polynomial	3	358689.262	431917.197

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
13	Value	SVMPolinomial	0	polynomial	3	0.575	0.534
14	Value	SVMPolinomial	1	polynomial	3	7.825	7.190
15	Value	SVMPolinomial	10	polynomial	3	38.541	34.357
16	Value	SVMPolinomial	100	polynomial	3	68259.686	67109.966
17	Value	SVMPolinomial	1000	polynomial	3	463.501	438.322
18	Value	SVMPolinomial	10000	polynomial	3	358689.262	431917.197
19	Value	SVMPolinomial	0	polynomial	4	0.768	0.725
20	Value	SVMPolinomial	1	polynomial	4	8116.624	7973.896
21	Value	SVMPolinomial	10	polynomial	4	227.474	194.797
22	Value	SVMPolinomial	100	polynomial	4	425.305	398.129
23	Value	SVMPolinomial	1000	polynomial	4	543.271	498.171
24	Value	SVMPolinomial	10000	polynomial	4	2083.181	1831.365
25	Value	SVMPolinomial	0	polynomial	5	13.812	13.558
26	Value	SVMPolinomial	1	polynomial	5	521.277	483.460
27	Value	SVMPolinomial	10	polynomial	5	1900.684	1839.873
28	Value	SVMPolinomial	100	polynomial	5	34507.153	39231.000
29	Value	SVMPolinomial	1000	polynomial	5	11709167.875	11509389.797
30	Value	SVMPolinomial	10000	polynomial	5	7433.352	7088.705

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.098	0.037
2	Value	SVMradial	1	radial	0.500	0.087	0.043
3	Value	SVMradial	10	radial	0.500	0.245	0.193
4	Value	SVMradial	100	radial	0.500	1.982	1.912
5	Value	SVMradial	1000	radial	0.500	0.117	0.063
6	Value	SVMradial	10000	radial	0.500	0.134	0.070
7	Value	SVMradial	0	radial	1	0.075	0.030
8	Value	SVMradial	1	radial	1	0.090	0.038
9	Value	SVMradial	10	radial	1	0.090	0.039
10	Value	SVMradial	100	radial	1	0.104	0.042
11	Value	SVMradial	1000	radial	1	0.088	0.042
12	Value	SVMradial	10000	radial	1	0.096	0.033
13	Value	SVMradial	0	radial	2	0.074	0.034
14	Value	SVMradial	1	radial	2	0.074	0.025
15	Value	SVMradial	10	radial	2	0.072	0.026
16	Value	SVMradial	100	radial	2	0.072	0.029
17	Value	SVMradial	1000	radial	2	0.078	0.030
18	Value	SVMradial	10000	radial	2	0.075	0.030
19	Value	SVMradial	0	radial	4	0.070	0.030
20	Value	SVMradial	1	radial	4	0.073	0.027
21	Value	SVMradial	10	radial	4	0.071	0.028
22	Value	SVMradial	100	radial	4	0.072	0.032
23	Value	SVMradial	1000	radial	4	0.071	0.027
24	Value	SVMradial	10000	radial	4	0.068	0.028

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.098	0.037
2	Value	SVMradial	1	radial	0.500	0.087	0.043
3	Value	SVMradial	10	radial	0.500	0.245	0.193
4	Value	SVMradial	95	radial	0.500	5.064	4.949
5	Value	SVMradial	100	radial	0.500	0.516	0.468
6	Value	SVMradial	105	radial	0.500	2.155	2.082
7	Value	SVMradial	1000	radial	0.500	0.112	0.047
8	Value	SVMradial	10000	radial	0.500	0.134	0.056
9	Value	SVMradial	0	radial	1	0.075	0.035
10	Value	SVMradial	1	radial	1	0.080	0.033
11	Value	SVMradial	10	radial	1	0.112	0.072
12	Value	SVMradial	95	radial	1	0.096	0.033
13	Value	SVMradial	100	radial	1	0.098	0.050
14	Value	SVMradial	105	radial	1	0.087	0.021
15	Value	SVMradial	1000	radial	1	0.094	0.031
16	Value	SVMradial	10000	radial	1	0.089	0.034
17	Value	SVMradial	0	radial	2	0.074	0.031
18	Value	SVMradial	1	radial	2	0.099	0.074

## ISO5 AZOTO:

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	1.003	0.687

RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.936	0.639
2	Value	Random For...	20	0.918	0.727
3	Value	Random For...	50	0.920	0.670
4	Value	Random For...	100	0.962	0.653
5	Value	Random For...	200	0.921	0.621
6	Value	Random For...	500	0.878	0.631
7	Value	Random For...	1000	0.906	0.608

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.921	0.572
2	Value	SVMdot	1	dot	0.914	0.628
3	Value	SVMdot	10	dot	0.928	0.732
4	Value	SVMdot	100	dot	0.908	0.620
5	Value	SVMdot	1000	dot	0.935	0.634
6	Value	SVMdot	10000	dot	0.955	0.626

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.921	0.572
2	Value	SVMpolinomial	1	polynomial	1	0.914	0.628
3	Value	SVMpolinomial	10	polynomial	1	0.928	0.732
4	Value	SVMpolinomial	100	polynomial	1	0.908	0.620
5	Value	SVMpolinomial	1000	polynomial	1	0.935	0.634
6	Value	SVMpolinomial	10000	polynomial	1	0.955	0.626
7	Value	SVMpolinomial	0	polynomial	2	1.467	1.150
8	Value	SVMpolinomial	1	polynomial	2	1.437	1.094
9	Value	SVMpolinomial	10	polynomial	2	1.468	1.134
10	Value	SVMpolinomial	100	polynomial	2	1.458	1.169
11	Value	SVMpolinomial	1000	polynomial	2	1.432	1.323
12	Value	SVMpolinomial	10000	polynomial	2	1.461	1.273
13	Value	SVMpolinomial	0	polynomial	3	5.662	5.369
14	Value	SVMpolinomial	1	polynomial	3	5.095	4.775
15	Value	SVMpolinomial	10	polynomial	3	4.895	4.587
16	Value	SVMpolinomial	100	polynomial	3	4.547	4.235
17	Value	SVMpolinomial	1000	polynomial	3	4.863	4.542
18	Value	SVMpolinomial	10000	polynomial	3	5.431	5.099
19	Value	SVMpolinomial	0	polynomial	4	19.741	19.233
20	Value	SVMpolinomial	1	polynomial	4	18.247	17.715
21	Value	SVMpolinomial	10	polynomial	4	20.169	19.642
22	Value	SVMpolinomial	100	polynomial	4	24.838	24.244
23	Value	SVMpolinomial	1000	polynomial	4	22.293	21.719
24	Value	SVMpolinomial	10000	polynomial	4	18.669	18.136
25	Value	SVMpolinomial	0	polynomial	5	91.920	90.164
26	Value	SVMpolinomial	1	polynomial	5	87.626	85.962
27	Value	SVMpolinomial	10	polynomial	5	86.782	85.093
28	Value	SVMpolinomial	100	polynomial	5	101.153	99.250
29	Value	SVMpolinomial	1000	polynomial	5	13689113....	13459027....
30	Value	SVMpolinomial	10000	polynomial	5	28.158	27.479

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.929	0.644
2	Value	SVMradial	1	radial	0.500	0.898	0.687
3	Value	SVMradial	10	radial	0.500	0.954	0.773
4	Value	SVMradial	100	radial	0.500	0.951	0.677
5	Value	SVMradial	1000	radial	0.500	1.240	0.837
6	Value	SVMradial	10000	radial	0.500	2.065	1.677
7	Value	SVMradial	0	radial	1	0.898	0.660
8	Value	SVMradial	1	radial	1	0.918	0.646
9	Value	SVMradial	10	radial	1	0.947	0.652
10	Value	SVMradial	100	radial	1	0.960	0.630
11	Value	SVMradial	1000	radial	1	1.386	0.976
12	Value	SVMradial	10000	radial	1	8.830	8.442
13	Value	SVMradial	0	radial	2	0.971	0.730
14	Value	SVMradial	1	radial	2	0.933	0.657
15	Value	SVMradial	10	radial	2	0.963	0.606
16	Value	SVMradial	100	radial	2	1.149	0.784
17	Value	SVMradial	1000	radial	2	1.307	0.937
18	Value	SVMradial	10000	radial	2	360.017	353.712
19	Value	SVMradial	0	radial	4	0.938	0.685
20	Value	SVMradial	1	radial	4	0.963	0.624
21	Value	SVMradial	10	radial	4	1.064	0.774
22	Value	SVMradial	100	radial	4	1.312	1.012
23	Value	SVMradial	1000	radial	4	1.367	0.837
24	Value	SVMradial	10000	radial	4	858.292	836.012
25	Value	SVMradial	0	radial	8	0.960	0.627
26	Value	SVMradial	1	radial	8	0.907	0.693
27	Value	SVMradial	10	radial	8	1.125	0.884
28	Value	SVMradial	100	radial	8	5.558	5.082
29	Value	SVMradial	1000	radial	8	59.891	59.721
30	Value	SVMradial	10000	radial	8	388.399	343.953

# QUESITO 2

## ISO1 PCS:

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	501.470	72.204

RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	594.745	120.514
2	Value	Random For...	20	591.135	203.455
3	Value	Random For...	50	587.011	142.854
4	Value	Random For...	100	579.025	136.209
5	Value	Random For...	200	579.886	164.035
6	Value	Random For...	500	583.953	139.512
7	Value	Random For...	1000	582.096	162.778

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	598.517	107.857
2	Value	SVMdot	1	dot	468.481	71.608
3	Value	SVMdot	10	dot	433.600	48.411
4	Value	SVMdot	100	dot	431.358	66.677
5	Value	SVMdot	1000	dot	432.168	37.877
6	Value	SVMdot	10000	dot	431.307	48.126

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	598.517	107.857
2	Value	SVMpolinomial	1	polynomial	1	468.481	71.608
3	Value	SVMpolinomial	10	polynomial	1	433.600	48.411
4	Value	SVMpolinomial	100	polynomial	1	431.358	66.677
5	Value	SVMpolinomial	1000	polynomial	1	432.168	37.877
6	Value	SVMpolinomial	10000	polynomial	1	431.307	48.126
7	Value	SVMpolinomial	0	polynomial	2	792.490	116.186
8	Value	SVMpolinomial	1	polynomial	2	844.849	312.565
9	Value	SVMpolinomial	10	polynomial	2	939.653	415.096
10	Value	SVMpolinomial	100	polynomial	2	4068.115	3701.749
11	Value	SVMpolinomial	1000	polynomial	2	46174.435	42970.949
12	Value	SVMpolinomial	10000	polynomial	2	989.212	549.199
13	Value	SVMpolinomial	0	polynomial	3	806.406	110.237
14	Value	SVMpolinomial	1	polynomial	3	84809.866	73154.721
15	Value	SVMpolinomial	10	polynomial	3	201275.984	192073.240
16	Value	SVMpolinomial	100	polynomial	3	9913192.757	9431284.766
17	Value	SVMpolinomial	1000	polynomial	3	1882.140	1146.945
18	Value	SVMpolinomial	10000	polynomial	3	1630.595	670.118
19	Value	SVMpolinomial	0	polynomial	4	817.931	115.445
20	Value	SVMpolinomial	1	polynomial	4	4698226.576	3591413.776
21	Value	SVMpolinomial	10	polynomial	4	4818.942	3580.671
22	Value	SVMpolinomial	100	polynomial	4	5670.978	4598.679
23	Value	SVMpolinomial	1000	polynomial	4	9820.489	7800.702
24	Value	SVMpolinomial	10000	polynomial	4	16029.764	12954.732
25	Value	SVMpolinomial	0	polynomial	5	819.762	96.582
26	Value	SVMpolinomial	1	polynomial	5	20667.967	19371.033
27	Value	SVMpolinomial	10	polynomial	5	11428.867	8405.321
28	Value	SVMpolinomial	100	polynomial	5	12163.876	8700.230
29	Value	SVMpolinomial	1000	polynomial	5	56118.711	50595.006
30	Value	SVMpolinomial	10000	polynomial	5	32255.121	28246.782

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	820.407	210.553
2	Value	SVMradial	1	radial	0.500	820.851	220.016
3	Value	SVMradial	10	radial	0.500	716.164	199.647
4	Value	SVMradial	100	radial	0.500	626.754	187.460
5	Value	SVMradial	1000	radial	0.500	567.839	164.919
6	Value	SVMradial	10000	radial	0.500	581.192	163.640
7	Value	SVMradial	0	radial	1	832.885	196.325
8	Value	SVMradial	1	radial	1	832.677	167.459
9	Value	SVMradial	10	radial	1	744.777	166.759
10	Value	SVMradial	100	radial	1	661.505	181.936
11	Value	SVMradial	1000	radial	1	598.025	152.869
12	Value	SVMradial	10000	radial	1	596.199	193.493
13	Value	SVMradial	0	radial	2	845.614	163.702
14	Value	SVMradial	1	radial	2	846.192	187.736
15	Value	SVMradial	10	radial	2	776.375	235.363
16	Value	SVMradial	100	radial	2	698.644	207.296
17	Value	SVMradial	1000	radial	2	632.718	182.815
18	Value	SVMradial	10000	radial	2	655.031	153.229
19	Value	SVMradial	0	radial	4	856.660	164.834
20	Value	SVMradial	1	radial	4	857.016	183.601
21	Value	SVMradial	10	radial	4	808.633	169.985
22	Value	SVMradial	100	radial	4	733.472	139.010
23	Value	SVMradial	1000	radial	4	686.815	187.948
24	Value	SVMradial	10000	radial	4	699.685	146.860
25	Value	SVMradial	0	radial	8	863.511	171.258
26	Value	SVMradial	1	radial	8	863.630	167.841
27	Value	SVMradial	10	radial	8	835.464	131.186
28	Value	SVMradial	100	radial	8	768.930	153.360
29	Value	SVMradial	1000	radial	8	727.231	121.024
30	Value	SVMradial	10000	radial	8	754.026	172.147

## ISO1 PCI:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	504.009	63.805

## RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	479.159	98.268
2	Value	Random For...	20	464.248	95.365
3	Value	Random For...	50	456.110	77.409
4	Value	Random For...	100	451.913	98.482
5	Value	Random For...	200	455.505	80.807
6	Value	Random For...	500	453.322	85.029
7	Value	Random For...	1000	452.303	82.193

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	588.743	102.407
2	Value	SVMdot	1	dot	471.628	70.020
3	Value	SVMdot	10	dot	434.014	48.491
4	Value	SVMdot	100	dot	431.545	66.671
5	Value	SVMdot	1000	dot	432.323	37.802
6	Value	SVMdot	10000	dot	431.448	48.108

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	588.743	102.407
2	Value	SVMpolinomial	1	polynomial	1	471.628	70.020
3	Value	SVMpolinomial	10	polynomial	1	434.014	48.491
4	Value	SVMpolinomial	100	polynomial	1	431.545	66.671
5	Value	SVMpolinomial	1000	polynomial	1	432.323	37.802
6	Value	SVMpolinomial	10000	polynomial	1	431.448	48.108
7	Value	SVMpolinomial	0	polynomial	2	748.541	105.023
8	Value	SVMpolinomial	1	polynomial	2	792.947	267.830
9	Value	SVMpolinomial	10	polynomial	2	884.621	367.969
10	Value	SVMpolinomial	100	polynomial	2	4468.465	4124.479
11	Value	SVMpolinomial	1000	polynomial	2	101697.084	93709.313
12	Value	SVMpolinomial	10000	polynomial	2	1050.036	648.407
13	Value	SVMpolinomial	0	polynomial	3	762.620	101.571
14	Value	SVMpolinomial	1	polynomial	3	86919.749	70071.335
15	Value	SVMpolinomial	10	polynomial	3	282546.391	236830.572
16	Value	SVMpolinomial	100	polynomial	3	1021502.437	992311.497
17	Value	SVMpolinomial	1000	polynomial	3	1954.050	1302.809
18	Value	SVMpolinomial	10000	polynomial	3	1530.052	770.799
19	Value	SVMpolinomial	0	polynomial	4	773.515	107.344
20	Value	SVMpolinomial	1	polynomial	4	8592594.668	7519555.028
21	Value	SVMpolinomial	10	polynomial	4	6721.413	5578.605
22	Value	SVMpolinomial	100	polynomial	4	5120.534	4059.462
23	Value	SVMpolinomial	1000	polynomial	4	9343.258	7497.216
24	Value	SVMpolinomial	10000	polynomial	4	22327.775	19706.543
25	Value	SVMpolinomial	0	polynomial	5	776.256	89.401
26	Value	SVMpolinomial	1	polynomial	5	16551.662	14372.605
27	Value	SVMpolinomial	10	polynomial	5	10983.079	7807.895
28	Value	SVMpolinomial	100	polynomial	5	19337.654	16784.633
29	Value	SVMpolinomial	1000	polynomial	5	29607.687	26304.279
30	Value	SVMpolinomial	10000	polynomial	5	29768.615	23533.753

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	773.102	191.742
2	Value	SVMradial	1	radial	0.500	776.245	207.271
3	Value	SVMradial	10	radial	0.500	682.144	182.865
4	Value	SVMradial	100	radial	0.500	602.731	172.852
5	Value	SVMradial	1000	radial	0.500	556.597	147.768
6	Value	SVMradial	10000	radial	0.500	587.860	121.129
7	Value	SVMradial	0	radial	1	787.585	178.664
8	Value	SVMradial	1	radial	1	787.351	154.770
9	Value	SVMradial	10	radial	1	707.102	149.467
10	Value	SVMradial	100	radial	1	632.423	168.810
11	Value	SVMradial	1000	radial	1	576.834	147.676
12	Value	SVMradial	10000	radial	1	580.137	178.536
13	Value	SVMradial	0	radial	2	800.012	150.567
14	Value	SVMradial	1	radial	2	800.419	174.635
15	Value	SVMradial	10	radial	2	736.077	217.968
16	Value	SVMradial	100	radial	2	666.820	190.757
17	Value	SVMradial	1000	radial	2	610.358	169.261
18	Value	SVMradial	10000	radial	2	634.788	141.709
19	Value	SVMradial	0	radial	4	810.441	150.025
20	Value	SVMradial	1	radial	4	810.473	169.780
21	Value	SVMradial	10	radial	4	766.443	155.317
22	Value	SVMradial	100	radial	4	697.521	125.069
23	Value	SVMradial	1000	radial	4	658.873	171.831
24	Value	SVMradial	10000	radial	4	678.291	134.890
25	Value	SVMradial	0	radial	8	816.645	157.810
26	Value	SVMradial	1	radial	8	816.411	154.820
27	Value	SVMradial	10	radial	8	790.107	121.282
28	Value	SVMradial	100	radial	8	730.097	142.702
29	Value	SVMradial	1000	radial	8	696.163	109.835
30	Value	SVMradial	10000	radial	8	727.006	156.245

## ISO1 CLORO:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.036	0.016

## RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviati...
1	Value	Random Forest	10	0.031	0.015
2	Value	Random Forest	20	0.030	0.015
3	Value	Random Forest	50	0.030	0.015
4	Value	Random Forest	100	0.031	0.015
5	Value	Random Forest	200	0.031	0.015
6	Value	Random Forest	500	0.031	0.015
7	Value	Random Forest	1000	0.030	0.014

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviati...
1	Value	SVMdot	0	dot	10.584	2.109
2	Value	SVMdot	1	dot	40.159	9.960
3	Value	SVMdot	10	dot	486.055	124.952
4	Value	SVMdot	100	dot	1107.032	526.632
5	Value	SVMdot	1000	dot	4792.299	1794.360
6	Value	SVMdot	10000	dot	5104.544	3965.931

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviati...
1	Value	SVMpolinomial	0	polynomial	1	0.033	0.017
2	Value	SVMpolinomial	1	polynomial	1	0.033	0.017
3	Value	SVMpolinomial	10	polynomial	1	0.034	0.017
4	Value	SVMpolinomial	100	polynomial	1	0.035	0.016
5	Value	SVMpolinomial	1000	polynomial	1	0.048	0.024
6	Value	SVMpolinomial	10000	polynomial	1	0.068	0.029
7	Value	SVMpolinomial	0	polynomial	2	0.090	0.071
8	Value	SVMpolinomial	1	polynomial	2	0.037	0.016
9	Value	SVMpolinomial	10	polynomial	2	0.042	0.017
10	Value	SVMpolinomial	100	polynomial	2	0.086	0.052
11	Value	SVMpolinomial	1000	polynomial	2	0.214	0.184
12	Value	SVMpolinomial	10000	polynomial	2	0.114	0.052
13	Value	SVMpolinomial	0	polynomial	3	0.493	0.421
14	Value	SVMpolinomial	1	polynomial	3	0.138	0.082
15	Value	SVMpolinomial	10	polynomial	3	0.205	0.110
16	Value	SVMpolinomial	100	polynomial	3	0.124	0.090
17	Value	SVMpolinomial	1000	polynomial	3	0.167	0.091

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.038	0.016
2	Value	SVMradial	1	radial	0.500	0.035	0.017
3	Value	SVMradial	10	radial	0.500	0.038	0.017
4	Value	SVMradial	100	radial	0.500	0.046	0.015
5	Value	SVMradial	1000	radial	0.500	0.054	0.019
6	Value	SVMradial	10000	radial	0.500	0.074	0.016
7	Value	SVMradial	0	radial	1	0.035	0.016
8	Value	SVMradial	1	radial	1	0.037	0.016
9	Value	SVMradial	10	radial	1	0.037	0.015
10	Value	SVMradial	100	radial	1	0.044	0.015
11	Value	SVMradial	1000	radial	1	0.050	0.013
12	Value	SVMradial	10000	radial	1	0.070	0.015
13	Value	SVMradial	0	radial	2	0.037	0.016
14	Value	SVMradial	1	radial	2	0.037	0.016
15	Value	SVMradial	10	radial	2	0.039	0.015
16	Value	SVMradial	100	radial	2	0.044	0.014
17	Value	SVMradial	1000	radial	2	0.058	0.013
18	Value	SVMradial	10000	radial	2	0.060	0.012
19	Value	SVMradial	0	radial	4	0.037	0.015
20	Value	SVMradial	1	radial	4	0.036	0.016
21	Value	SVMradial	10	radial	4	0.041	0.015
22	Value	SVMradial	100	radial	4	0.049	0.012
23	Value	SVMradial	1000	radial	4	0.054	0.016
24	Value	SVMradial	10000	radial	4	0.055	0.013
25	Value	SVMradial	0	radial	8	0.039	0.017
26	Value	SVMradial	1	radial	8	0.042	0.017
27	Value	SVMradial	10	radial	8	0.084	0.039
28	Value	SVMradial	100	radial	8	0.050	0.012
29	Value	SVMradial	1000	radial	8	0.049	0.012
30	Value	SVMradial	10000	radial	8	0.050	0.013

## **ISO1 ZOLFO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.027	0.005

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.023	0.005
2	Value	Random Forest	20	0.023	0.005
3	Value	Random Forest	50	0.023	0.005
4	Value	Random Forest	100	0.023	0.005
5	Value	Random Forest	200	0.023	0.005
6	Value	Random Forest	500	0.023	0.005
7	Value	Random Forest	1000	0.023	0.005

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	18.186	6.710
2	Value	SVMdot	1	dot	75.611	32.222
3	Value	SVMdot	10	dot	743.856	308.592
4	Value	SVMdot	100	dot	5118.878	922.870
5	Value	SVMdot	1000	dot	10671.384	5410.378
6	Value	SVMdot	10000	dot	6982.798	4568.143

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.024	0.005
2	Value	SVMpolinomial	1	polynomial	1	0.025	0.005
3	Value	SVMpolinomial	10	polynomial	1	0.026	0.005
4	Value	SVMpolinomial	100	polynomial	1	0.029	0.006
5	Value	SVMpolinomial	1000	polynomial	1	0.033	0.006
6	Value	SVMpolinomial	10000	polynomial	1	0.039	0.009
7	Value	SVMpolinomial	0	polynomial	2	0.028	0.006
8	Value	SVMpolinomial	1	polynomial	2	0.030	0.008
9	Value	SVMpolinomial	10	polynomial	2	0.034	0.011
10	Value	SVMpolinomial	100	polynomial	2	0.038	0.010
11	Value	SVMpolinomial	1000	polynomial	2	0.049	0.017
12	Value	SVMpolinomial	10000	polynomial	2	0.065	0.032
13	Value	SVMpolinomial	0	polynomial	3	1.496	1.421
14	Value	SVMpolinomial	1	polynomial	3	0.066	0.041
15	Value	SVMpolinomial	10	polynomial	3	0.040	0.014
16	Value	SVMpolinomial	100	polynomial	3	2.013	1.961
17	Value	SVMpolinomial	1000	polynomial	3	0.311	0.214
18	Value	SVMpolinomial	10000	polynomial	3	0.228	0.185
19	Value	SVMpolinomial	0	polynomial	4	4.197	3.017
20	Value	SVMpolinomial	1	polynomial	4	0.376	0.331
21	Value	SVMpolinomial	10	polynomial	4	0.495	0.360
22	Value	SVMpolinomial	100	polynomial	4	0.521	0.434
23	Value	SVMpolinomial	1000	polynomial	4	0.487	0.391
24	Value	SVMpolinomial	10000	polynomial	4	1.664	1.522
25	Value	SVMpolinomial	0	polynomial	5	0.503	0.495
26	Value	SVMpolinomial	1	polynomial	5	1.101	0.874
27	Value	SVMpolinomial	10	polynomial	5	1.304	1.082
28	Value	SVMpolinomial	100	polynomial	5	1.946	1.577
29	Value	SVMpolinomial	1000	polynomial	5	6.979	6.716
30	Value	SVMpolinomial	10000	polynomial	5	1.648	1.421

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.034	0.012
2	Value	SVMradial	1	radial	0.500	0.031	0.008
3	Value	SVMradial	10	radial	0.500	0.028	0.005
4	Value	SVMradial	100	radial	0.500	0.041	0.007
5	Value	SVMradial	1000	radial	0.500	0.065	0.015
6	Value	SVMradial	10000	radial	0.500	0.083	0.018
7	Value	SVMradial	0	radial	1	0.027	0.006
8	Value	SVMradial	1	radial	1	0.031	0.008
9	Value	SVMradial	10	radial	1	0.032	0.006
10	Value	SVMradial	100	radial	1	0.045	0.005
11	Value	SVMradial	1000	radial	1	0.051	0.009
12	Value	SVMradial	10000	radial	1	0.058	0.008
13	Value	SVMradial	0	radial	2	0.028	0.004
14	Value	SVMradial	1	radial	2	0.030	0.006
15	Value	SVMradial	10	radial	2	0.037	0.005
16	Value	SVMradial	100	radial	2	0.042	0.007
17	Value	SVMradial	1000	radial	2	0.048	0.006
18	Value	SVMradial	10000	radial	2	0.058	0.009
19	Value	SVMradial	0	radial	4	0.033	0.006
20	Value	SVMradial	1	radial	4	0.034	0.005
21	Value	SVMradial	10	radial	4	0.038	0.005
22	Value	SVMradial	100	radial	4	0.046	0.004
23	Value	SVMradial	1000	radial	4	0.053	0.008
24	Value	SVMradial	10000	radial	4	0.065	0.012
25	Value	SVMradial	0	radial	8	0.031	0.005
26	Value	SVMradial	1	radial	8	0.034	0.006
27	Value	SVMradial	10	radial	8	0.069	0.036
28	Value	SVMradial	100	radial	8	0.051	0.006
29	Value	SVMradial	1000	radial	8	0.054	0.005
30	Value	SVMradial	10000	radial	8	0.056	0.008

## **ISO2- PCS:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	783.659	288.881

RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	617.756	350.997
2	Value	Random For...	20	610.525	320.151
3	Value	Random For...	50	582.535	293.241
4	Value	Random For...	100	584.171	397.637
5	Value	Random For...	200	587.632	329.759
6	Value	Random For...	500	594.338	298.951
7	Value	Random For...	1000	581.403	299.966

Analizzato:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	619.330	331.682
2	Value	Random For...	20	607.558	366.450
3	Value	Random For...	25	610.079	319.540
4	Value	Random For...	30	595.156	301.546
5	Value	Random For...	35	592.298	395.826
6	Value	Random For...	40	573.086	322.899
7	Value	Random For...	45	604.427	301.227
8	Value	Random For...	50	590.912	297.610
9	Value	Random For...	100	600.218	296.050
10	Value	Random For...	200	604.373	366.186
11	Value	Random For...	500	601.321	325.680
12	Value	Random For...	1000	597.317	337.840

SVMDOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	764.383	353.412
2	Value	SVMdot	1	dot	710.323	384.094
3	Value	SVMdot	10	dot	494.453	227.983
4	Value	SVMdot	100	dot	380.017	159.577
5	Value	SVMdot	1000	dot	409.340	206.790
6	Value	SVMdot	10000	dot	446.226	153.983

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	764.383	353.412
2	Value	SVMdot	1	dot	710.323	384.094
3	Value	SVMdot	2	dot	679.829	359.360
4	Value	SVMdot	4	dot	614.142	270.208
5	Value	SVMdot	6	dot	563.869	334.423
6	Value	SVMdot	8	dot	532.433	217.621
7	Value	SVMdot	10	dot	507.556	217.644
8	Value	SVMdot	100	dot	387.009	172.722
9	Value	SVMdot	1000	dot	417.140	199.092
10	Value	SVMdot	10000	dot	417.700	211.024

## SVM POYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	764.383	353.412
2	Value	SVMpolinomial	1	polynomial	1	710.323	384.094
3	Value	SVMpolinomial	10	polynomial	1	494.453	227.983
4	Value	SVMpolinomial	100	polynomial	1	380.017	159.577
5	Value	SVMpolinomial	1000	polynomial	1	409.340	206.790
6	Value	SVMpolinomial	10000	polynomial	1	446.226	153.983
7	Value	SVMpolinomial	0	polynomial	2	776.166	360.826
8	Value	SVMpolinomial	1	polynomial	2	793.707	419.375
9	Value	SVMpolinomial	10	polynomial	2	1426.014	976.540
10	Value	SVMpolinomial	100	polynomial	2	6190.295	6456.727
11	Value	SVMpolinomial	1000	polynomial	2	6028.714	5649.479
12	Value	SVMpolinomial	10000	polynomial	2	134738.574	127106.278
13	Value	SVMpolinomial	0	polynomial	3	774.523	486.021
14	Value	SVMpolinomial	1	polynomial	3	1972.064	1590.121
15	Value	SVMpolinomial	10	polynomial	3	886.170	545.422
16	Value	SVMpolinomial	100	polynomial	3	35707.869	32861.465
17	Value	SVMpolinomial	1000	polynomial	3	109507.575	101535.928
18	Value	SVMpolinomial	10000	polynomial	3	2186118.197	1999555.780

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
13	Value	SVMpolinomial	0	polynomial	3	774.523	486.021
14	Value	SVMpolinomial	1	polynomial	3	1972.064	1590.121
15	Value	SVMpolinomial	10	polynomial	3	886.170	545.422
16	Value	SVMpolinomial	100	polynomial	3	35707.869	32861.465
17	Value	SVMpolinomial	1000	polynomial	3	109507.575	101535.928
18	Value	SVMpolinomial	10000	polynomial	3	2186118.197	1999555.780
19	Value	SVMpolinomial	0	polynomial	4	791.596	388.304
20	Value	SVMpolinomial	1	polynomial	4	10802.194	9534.600
21	Value	SVMpolinomial	10	polynomial	4	26079.152	24088.476
22	Value	SVMpolinomial	100	polynomial	4	327052.993	357107.781
23	Value	SVMpolinomial	1000	polynomial	4	9079026.694	8417183.243
24	Value	SVMpolinomial	10000	polynomial	4	65217677.414	61623924.663
25	Value	SVMpolinomial	0	polynomial	5	766.758	439.074
26	Value	SVMpolinomial	1	polynomial	5	178732.389	168537.776
27	Value	SVMpolinomial	10	polynomial	5	588503.363	551896.353
28	Value	SVMpolinomial	100	polynomial	5	7795891.421	8484263.952
29	Value	SVMpolinomial	1000	polynomial	5	20816836.520	19681548.784
30	Value	SVMpolinomial	10000	polynomial	5	23474280.925	24744261.384

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	775.038	360.860
2	Value	SVMradial	1	radial	0.500	760.680	410.195
3	Value	SVMradial	10	radial	0.500	756.036	403.830
4	Value	SVMradial	100	radial	0.500	713.629	379.035
5	Value	SVMradial	1000	radial	0.500	695.304	512.530
6	Value	SVMradial	10000	radial	0.500	951.000	519.077
7	Value	SVMradial	0	radial	1	773.909	360.268
8	Value	SVMradial	1	radial	1	768.334	403.958
9	Value	SVMradial	10	radial	1	758.397	378.165
10	Value	SVMradial	100	radial	1	728.374	497.660
11	Value	SVMradial	1000	radial	1	744.638	420.401
12	Value	SVMradial	10000	radial	1	768.783	455.021
13	Value	SVMradial	0	radial	2	781.173	495.107
14	Value	SVMradial	1	radial	2	779.713	459.453
15	Value	SVMradial	10	radial	2	760.519	393.920
16	Value	SVMradial	100	radial	2	740.500	464.490
17	Value	SVMradial	1000	radial	2	725.345	384.209
18	Value	SVMradial	10000	radial	2	728.229	378.945
19	Value	SVMradial	0	radial	4	789.686	387.420
20	Value	SVMradial	1	radial	4	765.215	420.428
21	Value	SVMradial	10	radial	4	757.689	366.679
22	Value	SVMradial	100	radial	4	756.666	431.994
23	Value	SVMradial	1000	radial	4	747.722	390.528
24	Value	SVMradial	10000	radial	4	756.982	411.349
25	Value	SVMradial	0	radial	8	772.431	445.545
26	Value	SVMradial	1	radial	8	762.647	391.416
27	Value	SVMradial	10	radial	8	762.263	368.970

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

28	Value	SVMradial	100	radial	8	769.033	369.384
29	Value	SVMradial	1000	radial	8	750.536	397.848
30	Value	SVMradial	10000	radial	8	754.086	426.240

## **Analizzato:**

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	775.038	360.860
2	Value	SVMradial	1	radial	0.500	760.680	410.195
3	Value	SVMradial	10	radial	0.500	756.036	403.830
4	Value	SVMradial	100	radial	0.500	713.629	379.035
5	Value	SVMradial	1000	radial	0.500	695.304	512.530
6	Value	SVMradial	2000	radial	0.500	718.376	427.667
7	Value	SVMradial	4000	radial	0.500	729.651	431.624
8	Value	SVMradial	6000	radial	0.500	770.174	408.858
9	Value	SVMradial	8000	radial	0.500	899.110	509.827
10	Value	SVMradial	10000	radial	0.500	764.725	455.500
11	Value	SVMradial	0	radial	1	769.817	384.717
12	Value	SVMradial	1	radial	1	762.676	387.010
13	Value	SVMradial	10	radial	1	771.722	498.319
14	Value	SVMradial	100	radial	1	736.793	480.066
15	Value	SVMradial	1000	radial	1	718.592	456.436
16	Value	SVMradial	2000	radial	1	727.531	504.752
17	Value	SVMradial	4000	radial	1	769.846	392.428
18	Value	SVMradial	6000	radial	1	725.273	382.543
19	Value	SVMradial	8000	radial	1	790.303	400.280
20	Value	SVMradial	10000	radial	1	721.852	431.527
21	Value	SVMradial	0	radial	2	762.161	363.683
22	Value	SVMradial	1	radial	2	765.089	430.049
23	Value	SVMradial	10	radial	2	771.352	391.446
24	Value	SVMradial	100	radial	2	746.292	418.995
25	Value	SVMradial	1000	radial	2	719.188	476.224
26	Value	SVMradial	2000	radial	2	719.881	413.300
27	Value	SVMradial	4000	radial	2	755.735	415.507
28	Value	SVMradial	6000	radial	2	738.257	392.290

29	Value	SVMradial	8000	radial	2	757.704	424.184
30	Value	SVMradial	10000	radial	2	732.626	393.022
31	Value	SVMradial	0	radial	4	779.565	378.414
32	Value	SVMradial	1	radial	4	771.131	470.969
33	Value	SVMradial	10	radial	4	764.936	351.737
34	Value	SVMradial	100	radial	4	752.462	408.044
35	Value	SVMradial	1000	radial	4	749.305	364.963
36	Value	SVMradial	2000	radial	4	750.478	418.004
37	Value	SVMradial	4000	radial	4	731.505	384.853
38	Value	SVMradial	6000	radial	4	768.946	458.808
39	Value	SVMradial	8000	radial	4	770.036	447.523
40	Value	SVMradial	10000	radial	4	758.977	416.125
41	Value	SVMradial	0	radial	8	766.721	396.133
42	Value	SVMradial	1	radial	8	760.006	356.322
43	Value	SVMradial	10	radial	8	786.762	394.734
44	Value	SVMradial	100	radial	8	751.931	376.839
45	Value	SVMradial	1000	radial	8	762.184	388.926
46	Value	SVMradial	2000	radial	8	752.568	404.230
47	Value	SVMradial	4000	radial	8	747.614	409.870
48	Value	SVMradial	6000	radial	8	752.249	407.940
49	Value	SVMradial	8000	radial	8	744.742	399.934
50	Value	SVMradial	10000	radial	8	742.887	402.623

## **ISO2 PCI:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	775.531	285.199

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	610.258	343.767
2	Value	Random Forest	20	595.217	298.903
3	Value	Random Forest	50	570.538	283.109
4	Value	Random Forest	100	583.753	392.764
5	Value	Random Forest	200	580.167	315.689
6	Value	Random Forest	500	585.431	294.428
7	Value	Random Forest	1000	572.848	290.245

SVMDOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	724.782	336.148
2	Value	SVMdot	1	dot	676.230	379.790
3	Value	SVMdot	10	dot	485.154	215.453
4	Value	SVMdot	100	dot	376.914	157.690
5	Value	SVMdot	1000	dot	409.319	206.805
6	Value	SVMdot	10000	dot	446.291	154.044

**Analizzato:**

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	724.782	336.148
2	Value	SVMdot	1	dot	676.230	379.790
3	Value	SVMdot	2	dot	641.055	339.963
4	Value	SVMdot	4	dot	594.218	261.343
5	Value	SVMdot	6	dot	539.270	333.490
6	Value	SVMdot	8	dot	537.604	231.892
7	Value	SVMdot	10	dot	493.006	201.018
8	Value	SVMdot	100	dot	387.022	172.787
9	Value	SVMdot	1000	dot	417.202	198.947
10	Value	SVMdot	10000	dot	417.708	211.027

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	724.782	336.148
2	Value	SVMpolinomial	1	polynomial	1	676.230	379.790
3	Value	SVMpolinomial	10	polynomial	1	485.154	215.453
4	Value	SVMpolinomial	100	polynomial	1	376.914	157.690
5	Value	SVMpolinomial	1000	polynomial	1	409.319	206.805
6	Value	SVMpolinomial	10000	polynomial	1	446.291	154.044
7	Value	SVMpolinomial	0	polynomial	2	737.719	350.303
8	Value	SVMpolinomial	1	polynomial	2	753.332	399.074
9	Value	SVMpolinomial	10	polynomial	2	1424.965	986.150
10	Value	SVMpolinomial	100	polynomial	2	5422.193	5627.242
11	Value	SVMpolinomial	1000	polynomial	2	3600.887	3382.817
12	Value	SVMpolinomial	10000	polynomial	2	622420.092	680125.974
13	Value	SVMpolinomial	0	polynomial	3	731.401	462.428
14	Value	SVMpolinomial	1	polynomial	3	1897.776	1529.249
15	Value	SVMpolinomial	10	polynomial	3	1327.858	1108.599
16	Value	SVMpolinomial	100	polynomial	3	34207.484	31301.453
17	Value	SVMpolinomial	1000	polynomial	3	288170.521	261122.755
18	Value	SVMpolinomial	10000	polynomial	3	6549867.309	5839266.529
18	Value	SVMpolinomial	10000	polynomial	3	6549867.309	5839266.529
19	Value	SVMpolinomial	0	polynomial	4	750.235	372.679
20	Value	SVMpolinomial	1	polynomial	4	9695.328	8524.247
21	Value	SVMpolinomial	10	polynomial	4	35728.480	33273.637
22	Value	SVMpolinomial	100	polynomial	4	618551.600	663929.385
23	Value	SVMpolinomial	1000	polynomial	4	2469923.173	2608474.613
24	Value	SVMpolinomial	10000	polynomial	4	72746883.783	67510838.046
25	Value	SVMpolinomial	0	polynomial	5	723.491	425.958
26	Value	SVMpolinomial	1	polynomial	5	174578.903	164384.656
27	Value	SVMpolinomial	10	polynomial	5	458280.920	427250.567
28	Value	SVMpolinomial	100	polynomial	5	7761516.975	8460624.400
29	Value	SVMpolinomial	1000	polynomial	5	118030446.5...	106801838.0...
30	Value	SVMpolinomial	10000	polynomial	5	174554755.7...	189775050.5...

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	735.666	344.022
2	Value	SVMradial	1	radial	0.500	720.014	404.119
3	Value	SVMradial	10	radial	0.500	718.826	390.933
4	Value	SVMradial	100	radial	0.500	685.270	363.653
5	Value	SVMradial	1000	radial	0.500	679.762	491.320
6	Value	SVMradial	10000	radial	0.500	694.466	383.819
7	Value	SVMradial	0	radial	1	735.586	349.669
8	Value	SVMradial	1	radial	1	730.494	392.602
9	Value	SVMradial	10	radial	1	716.742	365.296
10	Value	SVMradial	100	radial	1	697.476	474.051
11	Value	SVMradial	1000	radial	1	712.593	415.099
12	Value	SVMradial	10000	radial	1	757.589	441.088
13	Value	SVMradial	0	radial	2	737.893	471.330
14	Value	SVMradial	1	radial	2	734.009	436.619
15	Value	SVMradial	10	radial	2	716.114	391.709
16	Value	SVMradial	100	radial	2	708.661	446.640
17	Value	SVMradial	1000	radial	2	702.457	371.927
18	Value	SVMradial	10000	radial	2	700.970	362.645
19	Value	SVMradial	0	radial	4	748.309	371.743
20	Value	SVMradial	1	radial	4	727.174	408.086
21	Value	SVMradial	10	radial	4	722.794	351.762
22	Value	SVMradial	100	radial	4	725.020	421.576
23	Value	SVMradial	1000	radial	4	716.083	383.192
24	Value	SVMradial	10000	radial	4	728.289	394.316
25	Value	SVMradial	0	radial	8	729.251	432.459
26	Value	SVMradial	1	radial	8	719.920	376.912
27	Value	SVMradial	10	radial	8	725.780	356.285
28	Value	SVMradial	100	radial	8	730.512	353.191
29	Value	SVMradial	1000	radial	8	718.090	377.751
30	Value	SVMradial	10000	radial	8	720.477	404.209

## ISO2 CLORO:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.227	0.097

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.172	0.062
2	Value	Random Forest	20	0.179	0.070
3	Value	Random Forest	50	0.175	0.076
4	Value	Random Forest	100	0.169	0.073
5	Value	Random Forest	200	0.168	0.080
6	Value	Random Forest	500	0.171	0.069
7	Value	Random Forest	1000	0.167	0.071

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.243	0.120
2	Value	SVMdot	1	dot	0.296	0.187
3	Value	SVMdot	10	dot	0.266	0.142
4	Value	SVMdot	100	dot	0.244	0.133
5	Value	SVMdot	1000	dot	0.216	0.093
6	Value	SVMdot	10000	dot	423.783	384.855

Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.243	0.120
2	Value	SVMdot	1	dot	0.296	0.187
3	Value	SVMdot	10	dot	0.266	0.142
4	Value	SVMdot	100	dot	0.244	0.133
5	Value	SVMdot	1000	dot	0.216	0.093
6	Value	SVMdot	2000	dot	0.225	0.125
7	Value	SVMdot	4000	dot	0.261	0.117
8	Value	SVMdot	6000	dot	0.203	0.110
9	Value	SVMdot	8000	dot	0.196	0.085
10	Value	SVMdot	10000	dot	0.237	0.138

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.243	0.120
2	Value	SVMpolinomial	1	polynomial	1	0.296	0.187
3	Value	SVMpolinomial	10	polynomial	1	0.266	0.142
4	Value	SVMpolinomial	100	polynomial	1	0.244	0.133
5	Value	SVMpolinomial	1000	polynomial	1	0.216	0.093
6	Value	SVMpolinomial	10000	polynomial	1	423.783	384.855
7	Value	SVMpolinomial	0	polynomial	2	0.496	0.384
8	Value	SVMpolinomial	1	polynomial	2	0.633	0.414
9	Value	SVMpolinomial	10	polynomial	2	0.369	0.167
10	Value	SVMpolinomial	100	polynomial	2	343.456	311.824
11	Value	SVMpolinomial	1000	polynomial	2	231.035	242.080
12	Value	SVMpolinomial	10000	polynomial	2	0.572	0.433
13	Value	SVMpolinomial	0	polynomial	3	1.523	1.309
14	Value	SVMpolinomial	1	polynomial	3	299.179	311.223
15	Value	SVMpolinomial	10	polynomial	3	496.238	471.494
16	Value	SVMpolinomial	100	polynomial	3	2310.607	2344.225
17	Value	SVMpolinomial	1000	polynomial	3	1984.789	1801.484
18	Value	SVMpolinomial	10000	polynomial	3	21.936	19.219
19	Value	SVMpolinomial	0	polynomial	4	2.052	2.022
20	Value	SVMpolinomial	1	polynomial	4	10455.961	10552.844
21	Value	SVMpolinomial	10	polynomial	4	52760.840	47922.057
22	Value	SVMpolinomial	100	polynomial	4	38354.603	34826.988
23	Value	SVMpolinomial	1000	polynomial	4	288118.407	301070.999
24	Value	SVMpolinomial	10000	polynomial	4	6519.360	6825.594
25	Value	SVMpolinomial	0	polynomial	5	0.315	0.217
26	Value	SVMpolinomial	1	polynomial	5	8874.260	9266.551
27	Value	SVMpolinomial	10	polynomial	5	76482.119	80170.046
28	Value	SVMpolinomial	100	polynomial	5	11339.627	11847.648
29	Value	SVMpolinomial	1000	polynomial	5	124828.617	130918.199
30	Value	SVMpolinomial	10000	polynomial	5	152261.882	159682.615

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.211	0.066
2	Value	SVMradial	1	radial	0.500	0.192	0.053
3	Value	SVMradial	10	radial	0.500	0.430	0.276
4	Value	SVMradial	100	radial	0.500	0.287	0.111
5	Value	SVMradial	1000	radial	0.500	0.293	0.118
6	Value	SVMradial	10000	radial	0.500	0.290	0.118
7	Value	SVMradial	0	radial	1	0.187	0.054
8	Value	SVMradial	1	radial	1	0.196	0.080
9	Value	SVMradial	10	radial	1	0.185	0.052
10	Value	SVMradial	100	radial	1	0.203	0.052
11	Value	SVMradial	1000	radial	1	0.206	0.075
12	Value	SVMradial	10000	radial	1	0.192	0.063
13	Value	SVMradial	0	radial	2	0.171	0.079
14	Value	SVMradial	1	radial	2	0.154	0.063
15	Value	SVMradial	10	radial	2	0.157	0.066
16	Value	SVMradial	100	radial	2	0.170	0.061
17	Value	SVMradial	1000	radial	2	0.147	0.057
18	Value	SVMradial	10000	radial	2	0.160	0.064
19	Value	SVMradial	0	radial	4	0.159	0.068
20	Value	SVMradial	1	radial	4	0.160	0.061
21	Value	SVMradial	10	radial	4	0.157	0.053
22	Value	SVMradial	100	radial	4	0.157	0.059
23	Value	SVMradial	1000	radial	4	0.155	0.057
24	Value	SVMradial	10000	radial	4	0.158	0.048

## ISO2 ZOLFO:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.042	0.017

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.051	0.020
2	Value	Random Forest	20	0.045	0.020
3	Value	Random Forest	50	0.045	0.020
4	Value	Random Forest	100	0.046	0.023
5	Value	Random Forest	200	0.047	0.025
6	Value	Random Forest	500	0.046	0.026
7	Value	Random Forest	1000	0.047	0.022

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.052	0.026
2	Value	SVMdot	1	dot	0.056	0.027
3	Value	SVMdot	10	dot	0.049	0.025
4	Value	SVMdot	100	dot	0.048	0.021
5	Value	SVMdot	1000	dot	0.053	0.027
6	Value	SVMdot	10000	dot	0.053	0.025

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.052	0.026
2	Value	SVMpolinomial	1	polynomial	1	0.056	0.027
3	Value	SVMpolinomial	10	polynomial	1	0.049	0.025
4	Value	SVMpolinomial	100	polynomial	1	0.048	0.021
5	Value	SVMpolinomial	1000	polynomial	1	0.053	0.027
6	Value	SVMpolinomial	10000	polynomial	1	0.053	0.025
7	Value	SVMpolinomial	0	polynomial	2	0.134	0.103
8	Value	SVMpolinomial	1	polynomial	2	0.315	0.258
9	Value	SVMpolinomial	10	polynomial	2	8.324	8.677
10	Value	SVMpolinomial	100	polynomial	2	208.233	218.349
11	Value	SVMpolinomial	1000	polynomial	2	0.525	0.504
12	Value	SVMpolinomial	10000	polynomial	2	1.656	1.696
13	Value	SVMpolinomial	0	polynomial	3	0.555	0.475
14	Value	SVMpolinomial	1	polynomial	3	6.035	5.853
15	Value	SVMpolinomial	10	polynomial	3	1096.190	1123.683
16	Value	SVMpolinomial	100	polynomial	3	72336.788	65436.277
17	Value	SVMpolinomial	1000	polynomial	3	2.616	2.544
18	Value	SVMpolinomial	10000	polynomial	3	12.545	11.158
19	Value	SVMpolinomial	0	polynomial	4	0.167	0.152
20	Value	SVMpolinomial	1	polynomial	4	1615.215	1682.921
21	Value	SVMpolinomial	10	polynomial	4	268.647	243.469
22	Value	SVMpolinomial	100	polynomial	4	2016.233	2052.358
23	Value	SVMpolinomial	1000	polynomial	4	492284.020	516311.219
24	Value	SVMpolinomial	10000	polynomial	4	1350.064	1414.673
25	Value	SVMpolinomial	0	polynomial	5	0.581	0.501
26	Value	SVMpolinomial	1	polynomial	5	882.998	907.416
27	Value	SVMpolinomial	10	polynomial	5	4687.486	4892.339
28	Value	SVMpolinomial	100	polynomial	5	3637.709	3810.438
29	Value	SVMpolinomial	1000	polynomial	5	55398.978	58101.584
30	Value	SVMpolinomial	10000	polynomial	5	50834.147	53310.819

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.122	0.076
2	Value	SVMradial	1	radial	0.500	0.072	0.037
3	Value	SVMradial	10	radial	0.500	0.455	0.446
4	Value	SVMradial	100	radial	0.500	0.080	0.034
5	Value	SVMradial	1000	radial	0.500	0.083	0.046
6	Value	SVMradial	10000	radial	0.500	0.093	0.047
7	Value	SVMradial	0	radial	1	0.062	0.023
8	Value	SVMradial	1	radial	1	0.100	0.053
9	Value	SVMradial	10	radial	1	0.056	0.023
10	Value	SVMradial	100	radial	1	0.062	0.021
11	Value	SVMradial	1000	radial	1	0.062	0.032
12	Value	SVMradial	10000	radial	1	0.062	0.024
13	Value	SVMradial	0	radial	2	0.050	0.026
14	Value	SVMradial	1	radial	2	0.048	0.023
15	Value	SVMradial	10	radial	2	0.048	0.026
16	Value	SVMradial	100	radial	2	0.052	0.023
17	Value	SVMradial	1000	radial	2	0.044	0.023
18	Value	SVMradial	10000	radial	2	0.048	0.020
19	Value	SVMradial	0	radial	4	0.045	0.026
20	Value	SVMradial	1	radial	4	0.047	0.020
21	Value	SVMradial	10	radial	4	0.045	0.019
22	Value	SVMradial	100	radial	4	0.047	0.027
23	Value	SVMradial	1000	radial	4	0.045	0.024
24	Value	SVMradial	10000	radial	4	0.045	0.024
25	Value	SVMradial	0	radial	8	0.045	0.022
26	Value	SVMradial	1	radial	8	0.044	0.022
27	Value	SVMradial	10	radial	8	0.044	0.025
28	Value	SVMradial	100	radial	8	0.044	0.019
29	Value	SVMradial	1000	radial	8	0.043	0.019
30	Value	SVMradial	10000	radial	8	0.044	0.022

## ISO3 – PCS:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	1577.412	786.921

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	1173.456	708.196
2	Value	Random Forest	20	1345.968	672.648
3	Value	Random Forest	50	1158.780	498.779
4	Value	Random Forest	100	1218.949	642.401
5	Value	Random Forest	200	1151.335	593.242
6	Value	Random Forest	500	1185.270	651.279
7	Value	Random Forest	1000	1148.572	594.897

## Analizzato:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviati...
1	Value	Random For...	10	1168.542	606.045
2	Value	Random For...	20	1154.249	693.187
3	Value	Random For...	30	1299.396	649.134
4	Value	Random For...	40	1158.474	520.767
5	Value	Random For...	50	1208.704	614.599
6	Value	Random For...	100	1142.123	588.301
7	Value	Random For...	200	1185.048	632.925
8	Value	Random For...	500	1150.260	585.279
9	Value	Random For...	1000	1202.614	637.781

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviati...
1	Value	SVMdot	0	dot	1742.839	814.871
2	Value	SVMdot	1	dot	1689.573	806.249
3	Value	SVMdot	10	dot	1509.135	680.235
4	Value	SVMdot	100	dot	1091.782	580.828
5	Value	SVMdot	1000	dot	1146.851	641.818
6	Value	SVMdot	10000	dot	1185.014	540.987

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviati...
1	Value	SVMPolynomial	0	polynomial	1	1737.953	817.463
2	Value	SVMPolynomial	1	polynomial	1	1708.793	710.556
3	Value	SVMPolynomial	10	polynomial	1	1495.419	660.350
4	Value	SVMPolynomial	100	polynomial	1	1059.035	558.576
5	Value	SVMPolynomial	1000	polynomial	1	1055.150	477.867
6	Value	SVMPolynomial	10000	polynomial	1	1219.721	430.567
7	Value	SVMPolynomial	0	polynomial	2	1737.764	706.851
8	Value	SVMPolynomial	1	polynomial	2	1656.942	756.830
9	Value	SVMPolynomial	10	polynomial	2	1425.268	464.564
10	Value	SVMPolynomial	100	polynomial	2	1735.446	816.101
11	Value	SVMPolynomial	1000	polynomial	2	3136.411	1957.586
12	Value	SVMPolynomial	10000	polynomial	2	96417.737	95752.424
13	Value	SVMPolynomial	0	polynomial	3	1731.800	700.595
14	Value	SVMPolynomial	1	polynomial	3	1732.962	758.114
15	Value	SVMPolynomial	10	polynomial	3	2121.509	1562.835
16	Value	SVMPolynomial	100	polynomial	3	5911.608	5386.783
17	Value	SVMPolynomial	1000	polynomial	3	167010.074	165474.027
18	Value	SVMPolynomial	10000	polynomial	3	451306.748	323483.870
19	Value	SVMPolynomial	0	polynomial	4	1734.389	661.374
20	Value	SVMPolynomial	1	polynomial	4	2108.687	1285.089
21	Value	SVMPolynomial	10	polynomial	4	10512.434	9342.520
22	Value	SVMPolynomial	100	polynomial	4	63884.371	57281.347
23	Value	SVMPolynomial	1000	polynomial	4	659044.398	643951.214
24	Value	SVMPolynomial	10000	polynomial	4	3720860.931	3595115.345
25	Value	SVMPolynomial	0	polynomial	5	1767.079	831.168
26	Value	SVMPolynomial	1	polynomial	5	11980.697	10683.532
27	Value	SVMPolynomial	10	polynomial	5	42394.036	41714.141
28	Value	SVMPolynomial	100	polynomial	5	166794.283	160055.542
29	Value	SVMPolynomial	1000	polynomial	5	179952.129	165723.073
30	Value	SVMPolynomial	10000	polynomial	5	2145839.712	2050842.324

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviacion
1	Value	SVMradial	0	radial	0.500	1777.794	668.097
2	Value	SVMradial	1	radial	0.500	1741.274	891.781
3	Value	SVMradial	10	radial	0.500	1747.103	839.615
4	Value	SVMradial	100	radial	0.500	1580.502	762.425
5	Value	SVMradial	1000	radial	0.500	1446.222	858.686
6	Value	SVMradial	10000	radial	0.500	1408.923	897.984
7	Value	SVMradial	0	radial	1	1776.951	708.200
8	Value	SVMradial	1	radial	1	1731.297	716.696
9	Value	SVMradial	10	radial	1	1706.488	744.682
10	Value	SVMradial	100	radial	1	1656.535	834.476
11	Value	SVMradial	1000	radial	1	1409.031	828.330
12	Value	SVMradial	10000	radial	1	1394.718	856.302
13	Value	SVMradial	0	radial	2	1799.333	895.654
14	Value	SVMradial	1	radial	2	1749.219	757.727
15	Value	SVMradial	10	radial	2	1716.451	718.823
16	Value	SVMradial	100	radial	2	1705.399	865.342
17	Value	SVMradial	1000	radial	2	1460.006	772.981
18	Value	SVMradial	10000	radial	2	1381.833	879.038

19	Value	SVMradial	0	radial	4	1738.324	650.088
20	Value	SVMradial	1	radial	4	1715.296	738.551
21	Value	SVMradial	10	radial	4	1795.058	792.466
22	Value	SVMradial	100	radial	4	1710.743	678.613
23	Value	SVMradial	1000	radial	4	1538.245	809.603
24	Value	SVMradial	10000	radial	4	1508.105	770.191
25	Value	SVMradial	0	radial	8	1734.864	790.020
26	Value	SVMradial	1	radial	8	1767.196	828.518
27	Value	SVMradial	10	radial	8	1757.128	719.132
28	Value	SVMradial	100	radial	8	1714.765	788.523
29	Value	SVMradial	1000	radial	8	1676.927	809.859
30	Value	SVMradial	10000	radial	8	1616.693	773.218

### ISO 3- PCI:

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	1570.858	799.115

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	1205.165	737.593
2	Value	Random Forest	20	1344.500	639.943
3	Value	Random Forest	50	1163.047	511.450
4	Value	Random Forest	100	1226.602	662.874
5	Value	Random Forest	200	1153.421	594.459
6	Value	Random Forest	500	1188.878	650.403
7	Value	Random Forest	1000	1150.241	589.494

Analizzato:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random For...	10	1168.805	608.366
2	Value	Random For...	20	1173.860	725.429
3	Value	Random For...	30	1299.015	625.556
4	Value	Random For...	40	1158.461	531.364
5	Value	Random For...	50	1228.382	643.443
6	Value	Random For...	100	1150.227	590.999
7	Value	Random For...	200	1190.467	634.793
8	Value	Random For...	500	1151.321	577.332
9	Value	Random For...	1000	1196.129	619.083

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1756.563	633.449
2	Value	SVMdot	1	dot	1680.697	848.282
3	Value	SVMdot	10	dot	1555.074	602.425
4	Value	SVMdot	100	dot	1077.936	491.524
5	Value	SVMdot	1000	dot	1194.096	570.944
6	Value	SVMdot	10000	dot	1064.377	413.249

**Analizzato:**

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1756.563	633.449
2	Value	SVMdot	1	dot	1680.697	848.282
3	Value	SVMdot	10	dot	1555.074	602.425
4	Value	SVMdot	20	dot	1394.792	487.125
5	Value	SVMdot	40	dot	1263.113	582.772
6	Value	SVMdot	60	dot	1086.179	520.953
7	Value	SVMdot	80	dot	1083.891	549.358
8	Value	SVMdot	100	dot	1124.908	509.400
9	Value	SVMdot	1000	dot	1082.486	556.510
10	Value	SVMdot	10000	dot	1092.504	504.029

**Analizzato:**

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1756.563	633.449
2	Value	SVMdot	1	dot	1680.697	848.282
3	Value	SVMdot	10	dot	1555.074	602.425
4	Value	SVMdot	100	dot	1077.936	491.524
5	Value	SVMdot	1000	dot	1194.096	570.944
6	Value	SVMdot	2000	dot	1059.729	421.649
7	Value	SVMdot	4000	dot	1144.459	558.024
8	Value	SVMdot	6000	dot	1201.275	538.132
9	Value	SVMdot	8000	dot	1099.277	512.590
10	Value	SVMdot	10000	dot	1092.504	504.029

**SVM RADIAL:**

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1759.718	636.054
2	Value	SVMradial	1	radial	0.500	1702.609	860.951
3	Value	SVMradial	10	radial	0.500	1716.978	754.558
4	Value	SVMradial	100	radial	0.500	1540.570	707.125
5	Value	SVMradial	1000	radial	0.500	1432.454	820.860
6	Value	SVMradial	10000	radial	0.500	1384.816	871.173
7	Value	SVMradial	0	radial	1	1750.909	658.937
8	Value	SVMradial	1	radial	1	1698.064	657.578
9	Value	SVMradial	10	radial	1	1659.703	696.460
10	Value	SVMradial	100	radial	1	1627.963	797.820
11	Value	SVMradial	1000	radial	1	1376.518	795.502
12	Value	SVMradial	10000	radial	1	1364.823	825.533
13	Value	SVMradial	0	radial	2	1787.749	866.226
14	Value	SVMradial	1	radial	2	1713.015	684.996
15	Value	SVMradial	10	radial	2	1672.846	676.240
16	Value	SVMradial	100	radial	2	1680.034	816.761
17	Value	SVMradial	1000	radial	2	1419.880	731.064
18	Value	SVMradial	10000	radial	2	1340.320	850.428
19	Value	SVMradial	0	radial	4	1701.042	598.140
20	Value	SVMradial	1	radial	4	1670.988	684.139
21	Value	SVMradial	10	radial	4	1782.520	747.535
22	Value	SVMradial	100	radial	4	1676.557	675.936
23	Value	SVMradial	1000	radial	4	1488.934	768.898
24	Value	SVMradial	10000	radial	4	1459.906	724.320
25	Value	SVMradial	0	radial	8	1688.568	750.018
26	Value	SVMradial	1	radial	8	1735.987	793.864
27	Value	SVMradial	10	radial	8	1726.024	668.289
28	Value	SVMradial	100	radial	8	1669.952	757.763
29	Value	SVMradial	1000	radial	8	1623.794	731.662
30	Value	SVMradial	10000	radial	8	1565.614	728.528

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1756.563	633.449
2	Value	SVMpolinomial	1	polynomial	1	1680.697	848.282
3	Value	SVMpolinomial	10	polynomial	1	1555.074	602.425
4	Value	SVMpolinomial	100	polynomial	1	1077.936	491.524
5	Value	SVMpolinomial	1000	polynomial	1	1194.096	570.944
6	Value	SVMpolinomial	10000	polynomial	1	1064.377	413.249
7	Value	SVMpolinomial	0	polynomial	2	1750.029	655.690
8	Value	SVMpolinomial	1	polynomial	2	1654.084	602.969
9	Value	SVMpolinomial	10	polynomial	2	1309.369	260.831
10	Value	SVMpolinomial	100	polynomial	2	1707.866	651.688
11	Value	SVMpolinomial	1000	polynomial	2	2685.963	1541.256
12	Value	SVMpolinomial	10000	polynomial	2	17426.077	15716.089
13	Value	SVMpolinomial	0	polynomial	3	1786.678	864.144
14	Value	SVMpolinomial	1	polynomial	3	1777.510	774.062
15	Value	SVMpolinomial	10	polynomial	3	2517.845	1747.984
16	Value	SVMpolinomial	100	polynomial	3	6202.429	5001.141
17	Value	SVMpolinomial	1000	polynomial	3	90840.793	89549.057
18	Value	SVMpolinomial	10000	polynomial	3	935795.072	754146.112
19	Value	SVMpolinomial	0	polynomial	4	1698.507	593.668
20	Value	SVMpolinomial	1	polynomial	4	2795.456	1883.577
21	Value	SVMpolinomial	10	polynomial	4	11886.618	10832.675
22	Value	SVMpolinomial	100	polynomial	4	5819.367	4462.933
23	Value	SVMpolinomial	1000	polynomial	4	668989.233	659341.865
24	Value	SVMpolinomial	10000	polynomial	4	6740569.463	6423009.660
25	Value	SVMpolinomial	0	polynomial	5	1684.747	744.572
26	Value	SVMpolinomial	1	polynomial	5	28500.064	28038.643
27	Value	SVMpolinomial	10	polynomial	5	44261.530	43443.770
28	Value	SVMpolinomial	100	polynomial	5	38004.988	36201.180
29	Value	SVMpolinomial	1000	polynomial	5	1066433.965	1061652.059
30	Value	SVMpolinomial	10000	polynomial	5	2376560.904	2330456.931

**ISO3 CLORO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviati
1	Value	Decision Tree	least_square	0.125	0.092

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviati
1	Value	Random Forest	10	0.116	0.087
2	Value	Random Forest	20	0.106	0.082
3	Value	Random Forest	50	0.110	0.081
4	Value	Random Forest	100	0.112	0.080
5	Value	Random Forest	200	0.109	0.082
6	Value	Random Forest	500	0.110	0.084
7	Value	Random Forest	1000	0.111	0.083

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviati
1	Value	SVMdot	0	dot	0.893	0.435
2	Value	SVMdot	1	dot	3.108	1.116
3	Value	SVMdot	10	dot	28.196	11.283
4	Value	SVMdot	100	dot	293.782	137.478
5	Value	SVMdot	1000	dot	3060.129	1487.273
6	Value	SVMdot	10000	dot	27013.873	13755.906

SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviati
1	Value	SVMpolinomial	0	polynomial	1	0.122	0.098
2	Value	SVMpolinomial	1	polynomial	1	0.121	0.100
3	Value	SVMpolinomial	10	polynomial	1	0.122	0.096
4	Value	SVMpolinomial	100	polynomial	1	0.124	0.094
5	Value	SVMpolinomial	1000	polynomial	1	0.123	0.099
6	Value	SVMpolinomial	10000	polynomial	1	0.128	0.109
7	Value	SVMpolinomial	0	polynomial	2	0.118	0.090
8	Value	SVMpolinomial	1	polynomial	2	6.864	6.078
9	Value	SVMpolinomial	10	polynomial	2	1.287	1.193
10	Value	SVMpolinomial	100	polynomial	2	0.134	0.111
11	Value	SVMpolinomial	1000	polynomial	2	0.160	0.123
12	Value	SVMpolinomial	10000	polynomial	2	0.661	0.624
13	Value	SVMpolinomial	0	polynomial	3	0.061	0.039
14	Value	SVMpolinomial	1	polynomial	3	20.504	20.336
15	Value	SVMpolinomial	10	polynomial	3	55.326	54.093
16	Value	SVMpolinomial	100	polynomial	3	2.980	2.915
17	Value	SVMpolinomial	1000	polynomial	3	2.020	1.906
18	Value	SVMpolinomial	10000	polynomial	3	5.191	4.880
19	Value	SVMpolinomial	0	polynomial	4	0.532	0.519
20	Value	SVMpolinomial	1	polynomial	4	4.000	3.634
21	Value	SVMpolinomial	10	polynomial	4	84.608	73.648
22	Value	SVMpolinomial	100	polynomial	4	2238.898	2237.634
23	Value	SVMpolinomial	1000	polynomial	4	4044.557	4036.931
24	Value	SVMpolinomial	10000	polynomial	4	35.561	32.551
25	Value	SVMpolinomial	0	polynomial	5	0.136	0.123
26	Value	SVMpolinomial	1	polynomial	5	108.127	107.011
27	Value	SVMpolinomial	10	polynomial	5	3566.336	3548.386
28	Value	SVMpolinomial	100	polynomial	5	2048.294	2032.086
29	Value	SVMpolinomial	1000	polynomial	5	360.478	356.921
30	Value	SVMpolinomial	10000	polynomial	5	129.208	122.552

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviacion
1	Value	SVMradial	0	radial	0.500	0.153	0.102
2	Value	SVMradial	1	radial	0.500	0.141	0.099
3	Value	SVMradial	10	radial	0.500	0.148	0.093
4	Value	SVMradial	100	radial	0.500	0.161	0.082
5	Value	SVMradial	1000	radial	0.500	0.155	0.084
6	Value	SVMradial	10000	radial	0.500	0.155	0.089
7	Value	SVMradial	0	radial	1	0.142	0.095
8	Value	SVMradial	1	radial	1	0.146	0.094
9	Value	SVMradial	10	radial	1	0.142	0.093
10	Value	SVMradial	100	radial	1	0.145	0.100
11	Value	SVMradial	1000	radial	1	0.142	0.096
12	Value	SVMradial	10000	radial	1	0.141	0.099
13	Value	SVMradial	0	radial	2	0.138	0.095
14	Value	SVMradial	1	radial	2	0.135	0.097
15	Value	SVMradial	10	radial	2	0.134	0.098
16	Value	SVMradial	100	radial	2	0.130	0.098
17	Value	SVMradial	1000	radial	2	0.139	0.099
18	Value	SVMradial	10000	radial	2	0.137	0.096
19	Value	SVMradial	0	radial	4	0.130	0.095
20	Value	SVMradial	1	radial	4	0.131	0.093
21	Value	SVMradial	10	radial	4	0.129	0.096
22	Value	SVMradial	100	radial	4	0.129	0.097
23	Value	SVMradial	1000	radial	4	0.130	0.097
24	Value	SVMradial	10000	radial	4	0.130	0.095
25	Value	SVMradial	0	radial	8	0.128	0.097
26	Value	SVMradial	1	radial	8	0.127	0.097
27	Value	SVMradial	10	radial	8	0.126	0.094
28	Value	SVMradial	100	radial	8	0.126	0.094
29	Value	SVMradial	1000	radial	8	0.127	0.095
30	Value	SVMradial	10000	radial	8	0.129	0.101

**ISO3 ZOLFO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.086	0.034

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.066	0.025
2	Value	Random Forest	20	0.058	0.017
3	Value	Random Forest	50	0.064	0.029
4	Value	Random Forest	100	0.063	0.025
5	Value	Random Forest	200	0.064	0.022
6	Value	Random Forest	500	0.063	0.023
7	Value	Random Forest	1000	0.061	0.023

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.072	0.027
2	Value	SVMdot	1	dot	0.068	0.028
3	Value	SVMdot	10	dot	0.070	0.024
4	Value	SVMdot	100	dot	0.066	0.029
5	Value	SVMdot	1000	dot	0.069	0.031
6	Value	SVMdot	10000	dot	0.068	0.025

SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolynomial	0	polynomial	1	0.072	0.027
2	Value	SVMpolynomial	1	polynomial	1	0.068	0.028
3	Value	SVMpolynomial	10	polynomial	1	0.070	0.024
4	Value	SVMpolynomial	100	polynomial	1	0.066	0.029
5	Value	SVMpolynomial	1000	polynomial	1	0.069	0.031
6	Value	SVMpolynomial	10000	polynomial	1	0.068	0.025
7	Value	SVMpolynomial	0	polynomial	2	0.106	0.053
8	Value	SVMpolynomial	1	polynomial	2	0.754	0.688
9	Value	SVMpolynomial	10	polynomial	2	9.708	9.678
10	Value	SVMpolynomial	100	polynomial	2	195.984	186.725
11	Value	SVMpolynomial	1000	polynomial	2	0.119	0.055
12	Value	SVMpolynomial	10000	polynomial	2	0.411	0.263
13	Value	SVMpolynomial	0	polynomial	3	0.654	0.622
14	Value	SVMpolynomial	1	polynomial	3	9.889	9.575
15	Value	SVMpolynomial	10	polynomial	3	105.018	100.123
16	Value	SVMpolynomial	100	polynomial	3	269.170	224.977
17	Value	SVMpolynomial	1000	polynomial	3	9.267	8.891
18	Value	SVMpolynomial	10000	polynomial	3	1.761	1.468
19	Value	SVMpolynomial	0	polynomial	4	0.854	0.814
20	Value	SVMpolynomial	1	polynomial	4	818.085	817.887
21	Value	SVMpolynomial	10	polynomial	4	2684.626	2534.695
22	Value	SVMpolynomial	100	polynomial	4	702.618	700.831
23	Value	SVMpolynomial	1000	polynomial	4	3193.908	3190.161
24	Value	SVMpolynomial	10000	polynomial	4	26.671	25.709
25	Value	SVMpolynomial	0	polynomial	5	1.621	1.595
26	Value	SVMpolynomial	1	polynomial	5	49.243	48.705
27	Value	SVMpolynomial	10	polynomial	5	1487.616	1440.732
28	Value	SVMpolynomial	100	polynomial	5	50.712	46.726
29	Value	SVMpolynomial	1000	polynomial	5	170.131	166.075
30	Value	SVMpolynomial	10000	polynomial	5	120.113	112.647

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.115	0.059
2	Value	SVMradial	1	radial	0.500	0.092	0.049
3	Value	SVMradial	10	radial	0.500	0.257	0.213
4	Value	SVMradial	100	radial	0.500	0.096	0.036
5	Value	SVMradial	1000	radial	0.500	0.108	0.044
6	Value	SVMradial	10000	radial	0.500	0.093	0.038
7	Value	SVMradial	0	radial	1	0.079	0.022
8	Value	SVMradial	1	radial	1	0.081	0.034
9	Value	SVMradial	10	radial	1	0.083	0.025
10	Value	SVMradial	100	radial	1	0.082	0.031
11	Value	SVMradial	1000	radial	1	0.081	0.032
12	Value	SVMradial	10000	radial	1	0.079	0.030
13	Value	SVMradial	0	radial	2	0.082	0.025
14	Value	SVMradial	1	radial	2	0.080	0.029
15	Value	SVMradial	10	radial	2	0.077	0.032
16	Value	SVMradial	100	radial	2	0.073	0.031
17	Value	SVMradial	1000	radial	2	0.079	0.030
18	Value	SVMradial	10000	radial	2	0.079	0.030
19	Value	SVMradial	0	radial	4	0.079	0.019
20	Value	SVMradial	1	radial	4	0.079	0.017
21	Value	SVMradial	10	radial	4	0.077	0.020
22	Value	SVMradial	100	radial	4	0.077	0.031
23	Value	SVMradial	1000	radial	4	0.079	0.024
24	Value	SVMradial	10000	radial	4	0.078	0.026
25	Value	SVMradial	0	radial	8	0.082	0.026
26	Value	SVMradial	1	radial	8	0.080	0.021
27	Value	SVMradial	10	radial	8	0.080	0.019

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.115	0.059
2	Value	SVMradial	1	radial	0.500	0.092	0.049
3	Value	SVMradial	5	radial	0.500	0.191	0.144
4	Value	SVMradial	10	radial	0.500	0.096	0.036
5	Value	SVMradial	105	radial	0.500	0.108	0.044
6	Value	SVMradial	100	radial	0.500	0.093	0.038
7	Value	SVMradial	1000	radial	0.500	0.094	0.025
8	Value	SVMradial	10000	radial	0.500	0.100	0.029
9	Value	SVMradial	0	radial	1	0.088	0.036
10	Value	SVMradial	1	radial	1	0.081	0.031
11	Value	SVMradial	5	radial	1	0.081	0.032
12	Value	SVMradial	10	radial	1	0.079	0.030
13	Value	SVMradial	105	radial	1	0.080	0.026
14	Value	SVMradial	100	radial	1	0.076	0.032
15	Value	SVMradial	1000	radial	1	0.078	0.037
16	Value	SVMradial	10000	radial	1	0.069	0.029
17	Value	SVMradial	0	radial	2	0.079	0.030
18	Value	SVMradial	1	radial	2	0.079	0.030
Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
19	Value	SVMradial	5	radial	2	0.078	0.019
20	Value	SVMradial	10	radial	2	0.078	0.019
21	Value	SVMradial	105	radial	2	0.078	0.022
22	Value	SVMradial	100	radial	2	0.073	0.030
23	Value	SVMradial	1000	radial	2	0.079	0.028
24	Value	SVMradial	10000	radial	2	0.076	0.028
25	Value	SVMradial	0	radial	4	0.081	0.027
26	Value	SVMradial	1	radial	4	0.079	0.018
27	Value	SVMradial	5	radial	4	0.079	0.017
28	Value	SVMradial	10	radial	4	0.079	0.025
29	Value	SVMradial	105	radial	4	0.079	0.015
30	Value	SVMradial	100	radial	4	0.080	0.036
31	Value	SVMradial	1000	radial	4	0.079	0.028
32	Value	SVMradial	10000	radial	4	0.080	0.029
33	Value	SVMradial	0	radial	8	0.084	0.029
34	Value	SVMradial	1	radial	8	0.079	0.028
35	Value	SVMradial	5	radial	8	0.082	0.027
36	Value	SVMradial	10	radial	8	0.080	0.022
37	Value	SVMradial	105	radial	8	0.080	0.027
38	Value	SVMradial	100	radial	8	0.080	0.029
39	Value	SVMradial	1000	radial	8	0.080	0.020
40	Value	SVMradial	10000	radial	8	0.080	0.022

ExampleSet (40 examples, 1 special attribute, 6 regular attributes)

## ISO5 PCS:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	2258.319	1594.060

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	1543.342	1519.531
2	Value	Random Forest	20	1591.970	1215.175
3	Value	Random Forest	50	1613.063	1272.406
4	Value	Random Forest	100	1629.794	1246.596
5	Value	Random Forest	200	1590.657	1232.862
6	Value	Random Forest	500	1592.916	1244.389
7	Value	Random Forest	1000	1620.781	1228.982

### SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1917.120	1336.404
2	Value	SVMdot	1	dot	1885.243	1419.302
3	Value	SVMdot	10	dot	1383.126	908.666
4	Value	SVMdot	100	dot	634.298	364.181
5	Value	SVMdot	1000	dot	556.766	299.008
6	Value	SVMdot	10000	dot	521.244	180.089

### SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1908.352	1357.488
2	Value	SVMpolinomial	1	polynomial	1	1866.043	1330.913
3	Value	SVMpolinomial	10	polynomial	1	1335.683	856.486
4	Value	SVMpolinomial	100	polynomial	1	688.283	328.584
5	Value	SVMpolinomial	1000	polynomial	1	529.929	193.653
6	Value	SVMpolinomial	10000	polynomial	1	515.741	146.745
7	Value	SVMpolinomial	0	polynomial	2	1919.216	1401.570
8	Value	SVMpolinomial	1	polynomial	2	1823.463	1354.488
9	Value	SVMpolinomial	10	polynomial	2	2190.187	1620.106
10	Value	SVMpolinomial	100	polynomial	2	4268.092	3573.041
11	Value	SVMpolinomial	1000	polynomial	2	7776.992	7935.593
12	Value	SVMpolinomial	10000	polynomial	2	6574.597	6754.890
13	Value	SVMpolinomial	0	polynomial	3	1712.715	1191.131
14	Value	SVMpolinomial	1	polynomial	3	22817.551	22037.231
15	Value	SVMpolinomial	10	polynomial	3	20982.017	20169.265
16	Value	SVMpolinomial	100	polynomial	3	28180.558	27005.994
17	Value	SVMpolinomial	1000	polynomial	3	73161.219	67736.852
18	Value	SVMpolinomial	10000	polynomial	3	8545992.811	8353909.696
19	Value	SVMpolinomial	0	polynomial	4	1764.290	1324.486
20	Value	SVMpolinomial	1	polynomial	4	146737.369	143273.195
21	Value	SVMpolinomial	10	polynomial	4	92966.683	90208.884
22	Value	SVMpolinomial	100	polynomial	4	32848.964	31389.025
23	Value	SVMpolinomial	1000	polynomial	4	137698.633	132846.784
24	Value	SVMpolinomial	10000	polynomial	4	62547036.658	60682420.678
25	Value	SVMpolinomial	0	polynomial	5	1053.224	391.338
26	Value	SVMpolinomial	1	polynomial	5	209563.353	205371.133
27	Value	SVMpolinomial	10	polynomial	5	388393.159	379918.507
28	Value	SVMpolinomial	100	polynomial	5	3701413.199	3613753.891
29	Value	SVMpolinomial	1000	polynomial	5	9483029026....	9323565176....
30	Value	SVMpolinomial	10000	polynomial	5	18556022.275	17284264.693

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1959.312	1400.128
2	Value	SVMradial	1	radial	0.500	1938.533	1445.121
3	Value	SVMradial	10	radial	0.500	1981.443	1839.417
4	Value	SVMradial	100	radial	0.500	1850.189	1442.837
5	Value	SVMradial	1000	radial	0.500	1775.404	1534.170
6	Value	SVMradial	10000	radial	0.500	2222.732	1866.209
7	Value	SVMradial	0	radial	1	1957.857	1433.875
8	Value	SVMradial	1	radial	1	1954.411	1438.705
9	Value	SVMradial	10	radial	1	1917.001	1440.245
10	Value	SVMradial	100	radial	1	1878.158	1419.530
11	Value	SVMradial	1000	radial	1	1800.430	1498.774
12	Value	SVMradial	10000	radial	1	1861.473	1488.252
13	Value	SVMradial	0	radial	2	1961.686	1439.742
14	Value	SVMradial	1	radial	2	1924.417	1447.478
15	Value	SVMradial	10	radial	2	1906.184	1426.007
16	Value	SVMradial	100	radial	2	1887.778	1528.453
17	Value	SVMradial	1000	radial	2	1832.262	1460.939
18	Value	SVMradial	10000	radial	2	1956.445	1457.038
19	Value	SVMradial	0	radial	4	1939.598	1410.125
20	Value	SVMradial	1	radial	4	1901.680	1439.841
21	Value	SVMradial	10	radial	4	1962.276	1400.811
22	Value	SVMradial	100	radial	4	1909.792	1432.958
23	Value	SVMradial	1000	radial	4	1863.210	1791.622
24	Value	SVMradial	10000	radial	4	1920.481	1454.885
25	Value	SVMradial	0	radial	8	1919.648	1411.652

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1947.685	1413.538
2	Value	SVMradial	1	radial	0.500	1952.056	1776.896
3	Value	SVMradial	10	radial	0.500	1911.965	1385.471
4	Value	SVMradial	100	radial	0.500	1917.103	1525.113
5	Value	SVMradial	1000	radial	0.500	1796.168	1483.963
6	Value	SVMradial	2000	radial	0.500	1779.275	1489.215
7	Value	SVMradial	4000	radial	0.500	1791.348	1497.873
8	Value	SVMradial	6000	radial	0.500	1822.821	1451.776
9	Value	SVMradial	8000	radial	0.500	1838.955	1466.083
10	Value	SVMradial	10000	radial	0.500	1936.183	1514.904
11	Value	SVMradial	0	radial	1	1984.655	1832.379
12	Value	SVMradial	1	radial	1	1918.221	1387.157
13	Value	SVMradial	10	radial	1	1893.218	1450.593
14	Value	SVMradial	100	radial	1	1844.544	1382.348
15	Value	SVMradial	1000	radial	1	1822.138	1453.663
16	Value	SVMradial	2000	radial	1	1800.138	1488.363
17	Value	SVMradial	4000	radial	1	1802.446	1492.067
18	Value	SVMradial	6000	radial	1	1825.153	1464.181
19	Value	SVMradial	8000	radial	1	1818.500	1488.901
20	Value	SVMradial	10000	radial	1	1861.473	1488.252
21	Value	SVMradial	0	radial	2	1961.686	1439.742
22	Value	SVMradial	1	radial	2	1924.417	1447.478
23	Value	SVMradial	10	radial	2	1906.184	1426.007
24	Value	SVMradial	100	radial	2	1887.778	1528.453
25	Value	SVMradial	1000	radial	2	1832.262	1460.939
26	Value	SVMradial	2000	radial	2	1825.546	1512.347
27	Value	SVMradial	4000	radial	2	1869.786	1507.092
28	Value	SVMradial	6000	radial	2	1808.317	1510.604
29	Value	SVMradial	8000	radial	2	1873.901	1470.568

ExampleSet (29 examples, 1 special attribute, 6 regular attributes)

**ISO5 PCI:****DECISION TREE:**

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	2113.148	1492.961

**RANDOM FOREST:**

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	1479.407	1431.702
2	Value	Random Forest	20	1538.382	1146.546
3	Value	Random Forest	50	1509.899	1187.515
4	Value	Random Forest	100	1536.848	1164.835
5	Value	Random Forest	200	1496.490	1154.083
6	Value	Random Forest	500	1497.621	1163.667
7	Value	Random Forest	1000	1523.892	1146.884

**SVM DOT:**

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	1800.170	1305.237
2	Value	SVMdot	1	dot	1741.938	1570.461
3	Value	SVMdot	10	dot	1248.497	812.236
4	Value	SVMdot	100	dot	793.686	472.808
5	Value	SVMdot	1000	dot	505.236	227.872
6	Value	SVMdot	10000	dot	473.861	199.403

**SVM POLYNOMIAL:**

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	1800.170	1305.237
2	Value	SVMpolinomial	1	polynomial	1	1741.938	1570.461
3	Value	SVMpolinomial	10	polynomial	1	1248.497	812.236
4	Value	SVMpolinomial	100	polynomial	1	793.686	472.808
5	Value	SVMpolinomial	1000	polynomial	1	505.236	227.872
6	Value	SVMpolinomial	10000	polynomial	1	473.861	199.403
7	Value	SVMpolinomial	0	polynomial	2	1829.808	1303.932
8	Value	SVMpolinomial	1	polynomial	2	1661.276	1211.488
9	Value	SVMpolinomial	10	polynomial	2	1866.188	1151.987
10	Value	SVMpolinomial	100	polynomial	2	4710.343	3922.774
11	Value	SVMpolinomial	1000	polynomial	2	6215.238	6534.610
12	Value	SVMpolinomial	10000	polynomial	2	7215.404	6736.243
13	Value	SVMpolinomial	0	polynomial	3	1605.483	1167.897
14	Value	SVMpolinomial	1	polynomial	3	21562.031	20776.936
15	Value	SVMpolinomial	10	polynomial	3	21762.013	20926.458
16	Value	SVMpolinomial	100	polynomial	3	31793.635	29989.593
17	Value	SVMpolinomial	1000	polynomial	3	11223946.930	11029164.471
18	Value	SVMpolinomial	10000	polynomial	3	214264672.2...	209920969.8...
19	Value	SVMpolinomial	0	polynomial	4	1579.305	1141.493
20	Value	SVMpolinomial	1	polynomial	4	63777.500	61686.453
21	Value	SVMpolinomial	10	polynomial	4	71662.292	66747.057
22	Value	SVMpolinomial	100	polynomial	4	92923.676	86693.908
23	Value	SVMpolinomial	1000	polynomial	4	71191396.125	69990693.307
24	Value	SVMpolinomial	10000	polynomial	4	1608456.621	1551340.266
25	Value	SVMpolinomial	0	polynomial	5	976.001	389.969
26	Value	SVMpolinomial	1	polynomial	5	171730.127	167784.911
27	Value	SVMpolinomial	10	polynomial	5	401959.565	392261.200
28	Value	SVMpolinomial	100	polynomial	5	32026112.431	31468991.295
29	Value	SVMpolinomial	1000	polynomial	5	7223760367....	7102280682....
30	Value	SVMpolinomial	10000	polynomial	5	14705966.091	13908917.572

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1818.568	1323.020
2	Value	SVMradial	1	radial	0.500	1823.580	1666.377
3	Value	SVMradial	10	radial	0.500	1785.702	1295.512
4	Value	SVMradial	100	radial	0.500	1756.362	1431.172
5	Value	SVMradial	1000	radial	0.500	1684.593	1378.830
6	Value	SVMradial	10000	radial	0.500	1921.323	1394.313
7	Value	SVMradial	0	radial	1	1848.702	1324.874
8	Value	SVMradial	1	radial	1	1816.167	1330.461
9	Value	SVMradial	10	radial	1	1823.287	1310.424
10	Value	SVMradial	100	radial	1	1740.361	1394.863
11	Value	SVMradial	1000	radial	1	1700.806	1708.468
12	Value	SVMradial	10000	radial	1	1655.016	1305.365
13	Value	SVMradial	0	radial	2	1773.820	1350.807
14	Value	SVMradial	1	radial	2	1801.265	1296.777
15	Value	SVMradial	10	radial	2	1827.780	1337.260
16	Value	SVMradial	100	radial	2	1769.897	1340.526
17	Value	SVMradial	1000	radial	2	1714.924	1379.088
18	Value	SVMradial	10000	radial	2	1761.295	1371.124
19	Value	SVMradial	0	radial	4	1790.922	1370.048
20	Value	SVMradial	1	radial	4	1823.367	1321.514
21	Value	SVMradial	10	radial	4	1832.509	1344.658
22	Value	SVMradial	100	radial	4	1765.540	1327.894
23	Value	SVMradial	1000	radial	4	1734.304	1339.060

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

## **Analizzato:**

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	1818.568	1323.020
2	Value	SVMradial	1	radial	0.500	1823.580	1666.377
3	Value	SVMradial	10	radial	0.500	1785.702	1295.512
4	Value	SVMradial	100	radial	0.500	1756.362	1431.172
5	Value	SVMradial	1000	radial	0.500	1684.593	1378.830
6	Value	SVMradial	2000	radial	0.500	1676.815	1377.671
7	Value	SVMradial	4000	radial	0.500	1687.563	1396.469
8	Value	SVMradial	6000	radial	0.500	1716.358	1345.648
9	Value	SVMradial	8000	radial	0.500	1724.625	1369.937
10	Value	SVMradial	10000	radial	0.500	1894.158	1429.364
11	Value	SVMradial	0	radial	1	1859.262	1718.543
12	Value	SVMradial	1	radial	1	1791.448	1295.393
13	Value	SVMradial	10	radial	1	1768.558	1352.828
14	Value	SVMradial	100	radial	1	1721.009	1316.672
15	Value	SVMradial	1000	radial	1	1709.989	1342.547
16	Value	SVMradial	2000	radial	1	1694.655	1375.821
17	Value	SVMradial	4000	radial	1	1727.973	1423.078
18	Value	SVMradial	6000	radial	1	1699.132	1373.669
19	Value	SVMradial	8000	radial	1	1708.217	1381.950
20	Value	SVMradial	10000	radial	1	1749.973	1384.545
21	Value	SVMradial	0	radial	2	1833.677	1343.235
22	Value	SVMradial	1	radial	2	1798.476	1350.098
23	Value	SVMradial	10	radial	2	1779.641	1328.453
24	Value	SVMradial	100	radial	2	1770.071	1423.529
25	Value	SVMradial	1000	radial	2	1715.258	1352.608
26	Value	SVMradial	2000	radial	2	1712.725	1401.914
27	Value	SVMradial	4000	radial	2	1766.653	1390.179
28	Value	SVMradial	6000	radial	2	1698.024	1400.127
29	Value	SVMradial	8000	radial	2	1758.450	1373.860
30	Value	SVMradial	10000	radial	2	1735.102	1399.185
31	Value	SVMradial	0	radial	4	1816.552	1651.881
32	Value	SVMradial	1	radial	4	1832.240	1272.830
33	Value	SVMradial	10	radial	4	1792.441	1309.296
34	Value	SVMradial	100	radial	4	1748.468	1378.678
35	Value	SVMradial	1000	radial	4	1747.968	1444.479
36	Value	SVMradial	2000	radial	4	1749.680	1332.827
37	Value	SVMradial	4000	radial	4	1755.905	1342.555
38	Value	SVMradial	6000	radial	4	1729.955	1414.939
39	Value	SVMradial	8000	radial	4	1786.764	1357.567
40	Value	SVMradial	10000	radial	4	1771.540	1329.202
41	Value	SVMradial	0	radial	8	1804.544	1282.836
42	Value	SVMradial	1	radial	8	1823.185	1290.554
43	Value	SVMradial	10	radial	8	1806.369	1332.692
44	Value	SVMradial	100	radial	8	1778.939	1330.064
45	Value	SVMradial	1000	radial	8	1742.048	1357.474
46	Value	SVMradial	2000	radial	8	1771.628	1334.146
47	Value	SVMradial	4000	radial	8	1750.866	1699.959
48	Value	SVMradial	6000	radial	8	1751.897	1384.510
49	Value	SVMradial	8000	radial	8	1810.368	1704.173
50	Value	SVMradial	10000	radial	8	1784.934	1433.978

## **ISO5 CLORO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.155	0.069

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.138	0.086
2	Value	Random Forest	20	0.142	0.078
3	Value	Random Forest	50	0.124	0.081
4	Value	Random Forest	100	0.127	0.068
5	Value	Random Forest	200	0.136	0.094
6	Value	Random Forest	500	0.128	0.072
7	Value	Random Forest	1000	0.131	0.076

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.191	0.092
2	Value	SVMdot	1	dot	0.203	0.110
3	Value	SVMdot	10	dot	0.190	0.102
4	Value	SVMdot	100	dot	0.199	0.104
5	Value	SVMdot	1000	dot	0.200	0.125
6	Value	SVMdot	10000	dot	0.179	0.087

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.191	0.092
2	Value	SVMpolinomial	1	polynomial	1	0.203	0.110
3	Value	SVMpolinomial	10	polynomial	1	0.190	0.102
4	Value	SVMpolinomial	100	polynomial	1	0.199	0.104
5	Value	SVMpolinomial	1000	polynomial	1	0.200	0.125
6	Value	SVMpolinomial	10000	polynomial	1	0.179	0.087
7	Value	SVMpolinomial	0	polynomial	2	0.326	0.238
8	Value	SVMpolinomial	1	polynomial	2	14.883	14.566
9	Value	SVMpolinomial	10	polynomial	2	0.643	0.509
10	Value	SVMpolinomial	100	polynomial	2	80.956	78.215
11	Value	SVMpolinomial	1000	polynomial	2	303.924	288.682
12	Value	SVMpolinomial	10000	polynomial	2	1.837	1.743
13	Value	SVMpolinomial	0	polynomial	3	0.803	0.730
14	Value	SVMpolinomial	1	polynomial	3	6.008	5.664
15	Value	SVMpolinomial	10	polynomial	3	10148.940	9965.008
16	Value	SVMpolinomial	100	polynomial	3	1177.657	1411.258
17	Value	SVMpolinomial	1000	polynomial	3	280175.046	272713.626
18	Value	SVMpolinomial	10000	polynomial	3	4.792	4.509
19	Value	SVMpolinomial	0	polynomial	4	1.962	1.870
20	Value	SVMpolinomial	1	polynomial	4	67.244	65.528
21	Value	SVMpolinomial	10	polynomial	4	15909.522	15628.517
22	Value	SVMpolinomial	100	polynomial	4	1819.319	1711.863
23	Value	SVMpolinomial	1000	polynomial	4	2220.798	2034.245
24	Value	SVMpolinomial	10000	polynomial	4	159865.813	156570.076
25	Value	SVMpolinomial	0	polynomial	5	2.808	2.715
26	Value	SVMpolinomial	1	polynomial	5	1552.326	1456.853
27	Value	SVMpolinomial	10	polynomial	5	2604.596	2522.292
28	Value	SVMpolinomial	100	polynomial	5	22422.511	20921.659
29	Value	SVMpolinomial	1000	polynomial	5	19690.343	17881.912
30	Value	SVMpolinomial	10000	polynomial	5	25913.034	24169.902

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.174	0.095
2	Value	SVMradial	1	radial	0.500	0.178	0.091
3	Value	SVMradial	10	radial	0.500	1.437	1.193
4	Value	SVMradial	100	radial	0.500	5.671	5.492
5	Value	SVMradial	1000	radial	0.500	0.290	0.111
6	Value	SVMradial	10000	radial	0.500	0.279	0.115
7	Value	SVMradial	0	radial	1	0.153	0.086
8	Value	SVMradial	1	radial	1	0.170	0.073
9	Value	SVMradial	10	radial	1	0.184	0.069
10	Value	SVMradial	100	radial	1	0.228	0.089
11	Value	SVMradial	1000	radial	1	0.221	0.095
12	Value	SVMradial	10000	radial	1	0.205	0.090
13	Value	SVMradial	0	radial	2	0.175	0.089
14	Value	SVMradial	1	radial	2	0.174	0.075
15	Value	SVMradial	10	radial	2	0.193	0.090
16	Value	SVMradial	100	radial	2	0.196	0.082
17	Value	SVMradial	1000	radial	2	0.186	0.070
18	Value	SVMradial	10000	radial	2	0.195	0.087
19	Value	SVMradial	0	radial	4	0.171	0.092
20	Value	SVMradial	1	radial	4	0.168	0.075
21	Value	SVMradial	10	radial	4	0.172	0.064
22	Value	SVMradial	100	radial	4	0.159	0.066
23	Value	SVMradial	1000	radial	4	0.162	0.067
24	Value	SVMradial	10000	radial	4	0.167	0.087
25	Value	SVMradial	0	radial	8	0.156	0.085
26	Value	SVMradial	1	radial	8	0.154	0.074
27	Value	SVMradial	10	radial	8	0.152	0.088

ExampleSet (30 examples, 1 special attribute, 6 regular attributes)

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.174	0.095
2	Value	SVMradial	1	radial	0.500	0.178	0.091
3	Value	SVMradial	2	radial	0.500	0.144	0.086
4	Value	SVMradial	4	radial	0.500	0.157	0.064
5	Value	SVMradial	6	radial	0.500	0.204	0.093
6	Value	SVMradial	8	radial	0.500	0.466	0.396
7	Value	SVMradial	10	radial	0.500	0.278	0.227
8	Value	SVMradial	100	radial	0.500	7.599	6.949
9	Value	SVMradial	1000	radial	0.500	0.248	0.103
10	Value	SVMradial	10000	radial	0.500	0.280	0.127
11	Value	SVMradial	0	radial	1	0.157	0.078
12	Value	SVMradial	1	radial	1	0.144	0.077
13	Value	SVMradial	2	radial	1	0.283	0.210
14	Value	SVMradial	4	radial	1	0.203	0.083
15	Value	SVMradial	6	radial	1	0.575	0.579
16	Value	SVMradial	8	radial	1	0.216	0.088
17	Value	SVMradial	10	radial	1	0.342	0.265
18	Value	SVMradial	100	radial	1	0.256	0.119

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.174	0.095
2	Value	SVMradial	1	radial	0.500	0.178	0.091
3	Value	SVMradial	10	radial	0.500	1.437	1.193
4	Value	SVMradial	100	radial	0.500	5.671	5.492
5	Value	SVMradial	200	radial	0.500	0.291	0.111
6	Value	SVMradial	400	radial	0.500	0.279	0.115
7	Value	SVMradial	600	radial	0.500	0.240	0.105
8	Value	SVMradial	800	radial	0.500	0.267	0.107
9	Value	SVMradial	1000	radial	0.500	0.248	0.103
10	Value	SVMradial	10000	radial	0.500	0.280	0.127
11	Value	SVMradial	0	radial	1	0.157	0.078
12	Value	SVMradial	1	radial	1	0.144	0.077
13	Value	SVMradial	10	radial	1	0.939	0.772
14	Value	SVMradial	100	radial	1	0.229	0.091
15	Value	SVMradial	200	radial	1	0.228	0.089
16	Value	SVMradial	400	radial	1	0.233	0.103
17	Value	SVMradial	600	radial	1	0.213	0.094
18	Value	SVMradial	800	radial	1	0.256	0.119

ExampleSet (50 examples, 1 special attribute, 6 regular attributes)

## ISO5 ZOLFO:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.076	0.036

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.063	0.033
2	Value	Random Forest	20	0.058	0.026
3	Value	Random Forest	50	0.054	0.029
4	Value	Random Forest	100	0.062	0.035
5	Value	Random Forest	200	0.056	0.032
6	Value	Random Forest	500	0.055	0.024
7	Value	Random Forest	1000	0.055	0.027

### SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.063	0.034
2	Value	SVMdot	1	dot	0.059	0.035
3	Value	SVMdot	10	dot	0.065	0.036
4	Value	SVMdot	100	dot	0.069	0.036
5	Value	SVMdot	1000	dot	0.068	0.041
6	Value	SVMdot	10000	dot	0.060	0.037

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.063	0.034
2	Value	SVMpolinomial	1	polynomial	1	0.059	0.035
3	Value	SVMpolinomial	10	polynomial	1	0.065	0.036
4	Value	SVMpolinomial	100	polynomial	1	0.069	0.036
5	Value	SVMpolinomial	1000	polynomial	1	0.068	0.041
6	Value	SVMpolinomial	10000	polynomial	1	0.060	0.037
7	Value	SVMpolinomial	0	polynomial	2	0.071	0.042
8	Value	SVMpolinomial	1	polynomial	2	0.086	0.037
9	Value	SVMpolinomial	10	polynomial	2	0.842	0.779
10	Value	SVMpolinomial	100	polynomial	2	679.113	667.000
11	Value	SVMpolinomial	1000	polynomial	2	80625.247	93725.797
12	Value	SVMpolinomial	10000	polynomial	2	0.409	0.373
13	Value	SVMpolinomial	0	polynomial	3	0.575	0.534
14	Value	SVMpolinomial	1	polynomial	3	7.825	7.190
15	Value	SVMpolinomial	10	polynomial	3	38.541	34.357
16	Value	SVMpolinomial	100	polynomial	3	68259.686	67109.966
17	Value	SVMpolinomial	1000	polynomial	3	463.501	438.322
18	Value	SVMpolinomial	10000	polynomial	3	358689.262	431917.197
13	Value	SVMpolinomial	0	polynomial	3	0.575	0.534
14	Value	SVMpolinomial	1	polynomial	3	7.825	7.190
15	Value	SVMpolinomial	10	polynomial	3	38.541	34.357
16	Value	SVMpolinomial	100	polynomial	3	68259.686	67109.966
17	Value	SVMpolinomial	1000	polynomial	3	463.501	438.322
18	Value	SVMpolinomial	10000	polynomial	3	358689.262	431917.197
19	Value	SVMpolinomial	0	polynomial	4	0.768	0.725
20	Value	SVMpolinomial	1	polynomial	4	8116.624	7973.896
21	Value	SVMpolinomial	10	polynomial	4	227.474	194.797
22	Value	SVMpolinomial	100	polynomial	4	425.305	398.129
23	Value	SVMpolinomial	1000	polynomial	4	543.271	498.171
24	Value	SVMpolinomial	10000	polynomial	4	2083.181	1831.365
25	Value	SVMpolinomial	0	polynomial	5	13.812	13.558
26	Value	SVMpolinomial	1	polynomial	5	521.277	483.460
27	Value	SVMpolinomial	10	polynomial	5	1900.684	1839.873
28	Value	SVMpolinomial	100	polynomial	5	34507.153	39231.000
29	Value	SVMpolinomial	1000	polynomial	5	11709167.875	11509389.797
30	Value	SVMpolinomial	10000	polynomial	5	7433.352	7088.705

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.098	0.037
2	Value	SVMradial	1	radial	0.500	0.087	0.043
3	Value	SVMradial	10	radial	0.500	0.245	0.193
4	Value	SVMradial	100	radial	0.500	1.982	1.912
5	Value	SVMradial	1000	radial	0.500	0.117	0.063
6	Value	SVMradial	10000	radial	0.500	0.134	0.070
7	Value	SVMradial	0	radial	1	0.075	0.030
8	Value	SVMradial	1	radial	1	0.090	0.038
9	Value	SVMradial	10	radial	1	0.090	0.039
10	Value	SVMradial	100	radial	1	0.104	0.042
11	Value	SVMradial	1000	radial	1	0.088	0.042
12	Value	SVMradial	10000	radial	1	0.096	0.033
13	Value	SVMradial	0	radial	2	0.074	0.034
14	Value	SVMradial	1	radial	2	0.074	0.025
15	Value	SVMradial	10	radial	2	0.072	0.026
16	Value	SVMradial	100	radial	2	0.072	0.029
17	Value	SVMradial	1000	radial	2	0.078	0.030
18	Value	SVMradial	10000	radial	2	0.075	0.030
19	Value	SVMradial	0	radial	4	0.070	0.030
20	Value	SVMradial	1	radial	4	0.073	0.027
21	Value	SVMradial	10	radial	4	0.071	0.028
22	Value	SVMradial	100	radial	4	0.072	0.032
23	Value	SVMradial	1000	radial	4	0.071	0.027
24	Value	SVMradial	10000	radial	4	0.068	0.028
25	Value	SVMradial	0	radial	8	0.068	0.029
26	Value	SVMradial	1	radial	8	0.069	0.038
27	Value	SVMradial	10	radial	8	0.069	0.027
28	Value	SVMradial	100	radial	8	0.068	0.036
29	Value	SVMradial	1000	radial	8	0.069	0.031
30	Value	SVMradial	10000	radial	8	0.067	0.034

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.098	0.037
2	Value	SVMradial	1	radial	0.500	0.087	0.043
3	Value	SVMradial	10	radial	0.500	0.245	0.193
4	Value	SVMradial	95	radial	0.500	5.064	4.949
5	Value	SVMradial	100	radial	0.500	0.516	0.468
6	Value	SVMradial	105	radial	0.500	2.155	2.082
7	Value	SVMradial	1000	radial	0.500	0.112	0.047
8	Value	SVMradial	10000	radial	0.500	0.134	0.056
9	Value	SVMradial	0	radial	1	0.075	0.035
10	Value	SVMradial	1	radial	1	0.080	0.033
11	Value	SVMradial	10	radial	1	0.112	0.072
12	Value	SVMradial	95	radial	1	0.096	0.033
13	Value	SVMradial	100	radial	1	0.098	0.050
14	Value	SVMradial	105	radial	1	0.087	0.021
15	Value	SVMradial	1000	radial	1	0.094	0.031
16	Value	SVMradial	10000	radial	1	0.089	0.034
17	Value	SVMradial	0	radial	2	0.074	0.031
18	Value	SVMradial	1	radial	2	0.099	0.074
19	Value	SVMradial	10	radial	2	0.079	0.032
20	Value	SVMradial	95	radial	2	0.079	0.029
21	Value	SVMradial	100	radial	2	0.075	0.026
22	Value	SVMradial	105	radial	2	0.077	0.026
23	Value	SVMradial	1000	radial	2	0.079	0.025
24	Value	SVMradial	10000	radial	2	0.073	0.021
25	Value	SVMradial	0	radial	4	0.071	0.030
26	Value	SVMradial	1	radial	4	0.070	0.036
27	Value	SVMradial	10	radial	4	0.072	0.022
28	Value	SVMradial	95	radial	4	0.069	0.034
29	Value	SVMradial	100	radial	4	0.071	0.029
30	Value	SVMradial	105	radial	4	0.066	0.034
31	Value	SVMradial	1000	radial	4	0.069	0.027
32	Value	SVMradial	10000	radial	4	0.072	0.033
33	Value	SVMradial	0	radial	8	0.067	0.032
34	Value	SVMradial	1	radial	8	0.068	0.031
35	Value	SVMradial	10	radial	8	0.070	0.027
36	Value	SVMradial	95	radial	8	0.070	0.028
37	Value	SVMradial	100	radial	8	0.069	0.031
38	Value	SVMradial	105	radial	8	0.069	0.034
39	Value	SVMradial	1000	radial	8	0.070	0.036
40	Value	SVMradial	10000	radial	8	0.070	0.038

### Quesito 3 – ISO1 | Parametro da predire: Cloro

#### Decision Tree

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

IOObjectCollection (/Local Repository/p [...] ecente/Solutions-Processo3/ISO1/Cloro/DT) [X](#)

Open in  [Turbo Prep](#)  [Auto Model](#)

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.024	0.004

#### Random Forest

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

ExampleSet (/Local Repository/processes [...] utions-Processo3/ISO1/Cloro/RandomForest) [X](#)

Open in  [Turbo Prep](#)  [Auto Model](#)

Row No.	id	algoritmo ↑	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	0.021	0.003
2	Value	Random Forest	20	0.020	0.003
3	Value	Random Forest	50	0.020	0.005
4	Value	Random Forest	100	0.020	0.005
5	Value	Random Forest	200	0.020	0.004
6	Value	Random Forest	500	0.020	0.005
7	Value	Random Forest	1000	0.020	0.003

## SVM Dot

Views: Design Results Turbo Prep Auto Model Deployments

ctCollection (/Local Repository/p [...] te/Solutions-Processo3/IS01/Cloro/SVMdot) X

Open in Turbo Prep Auto Model

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	5.928	1.264
2	Value	SVMdot	1	dot	22.797	5.148
3	Value	SVMdot	10	dot	143.344	30.789
4	Value	SVMdot	100	dot	557.514	183.542
5	Value	SVMdot	1000	dot	536.135	220.565
6	Value	SVMdot	10000	dot	3309.527	1476.385

Ulteriormente analizzato per valori di C pari a 1,2,4,6,8,10,20,40,60,80,100

Views: Design Results Turbo Prep Auto Model Deployments

tCollection (LP - SVMdot (4)) X Log (19) X

Open in Turbo Prep Auto Model

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	5.928	1.264
2	Value	SVMdot	1	dot	22.797	5.148
3	Value	SVMdot	2	dot	41.890	18.526
4	Value	SVMdot	4	dot	57.759	13.926
5	Value	SVMdot	6	dot	81.307	15.211
6	Value	SVMdot	8	dot	128.923	27.114
7	Value	SVMdot	10	dot	145.442	37.842
8	Value	SVMdot	20	dot	280.116	39.048
9	Value	SVMdot	40	dot	546.004	179.459
10	Value	SVMdot	60	dot	620.377	195.017
11	Value	SVMdot	80	dot	548.754	160.352
12	Value	SVMdot	100	dot	694.234	205.792

## SVM Polynomial

Views: Design Results Turbo Prep Auto Model Deployments

Collection (/Local Repository/p [...] tions-Processo3/ISO1/Cloro/SVMpolinomial) X

Open in

 Turbo Prep

 Auto Model

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.019	0.003
2	Value	SVMpolinomial	1	polynomial	1	0.014	0.002
3	Value	SVMpolinomial	10	polynomial	1	0.014	0.003
4	Value	SVMpolinomial	100	polynomial	1	0.016	0.003
5	Value	SVMpolinomial	1000	polynomial	1	0.024	0.007
6	Value	SVMpolinomial	10000	polynomial	1	0.075	0.042
7	Value	SVMpolinomial	0	polynomial	2	1.152	1.144
8	Value	SVMpolinomial	1	polynomial	2	0.024	0.005
9	Value	SVMpolinomial	10	polynomial	2	0.038	0.017
10	Value	SVMpolinomial	100	polynomial	2	0.060	0.031
11	Value	SVMpolinomial	1000	polynomial	2	0.145	0.122
12	Value	SVMpolinomial	10000	polynomial	2	0.048	0.014
13	Value	SVMpolinomial	0	polynomial	3	0.099	0.075
14	Value	SVMpolinomial	1	polynomial	3	0.106	0.082
15	Value	SVMpolinomial	10	polynomial	3	0.161	0.120
16	Value	SVMpolinomial	100	polynomial	3	0.203	0.145
17	Value	SVMpolinomial	1000	polynomial	3	0.095	0.052
18	Value	SVMpolinomial	10000	polynomial	3	0.095	0.052
19	Value	SVMpolinomial	0	polynomial	4	35.543	34.093
20	Value	SVMpolinomial	1	polynomial	4	1.106	0.981
21	Value	SVMpolinomial	10	polynomial	4	0.641	0.488
22	Value	SVMpolinomial	100	polynomial	4	0.443	0.348
23	Value	SVMpolinomial	1000	polynomial	4	0.819	0.623
24	Value	SVMpolinomial	10000	polynomial	4	0.698	0.508
25	Value	SVMpolinomial	0	polynomial	5	0.022	0.004
26	Value	SVMpolinomial	1	polynomial	5	3.360	2.727
27	Value	SVMpolinomial	10	polynomial	5	3.100	2.553
28	Value	SVMpolinomial	100	polynomial	5	7.779	7.349
29	Value	SVMpolinomial	1000	polynomial	5	3.177	2.871
30	Value	SVMpolinomial	10000	polynomial	5	3.019	2.684

## SVM Radial

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

ctCollection (/Local Repository/p [...] Solutions-Processo3/IS01/Cloro/SVMradial) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.031	0.013
2	Value	SVMradial	1	radial	0.500	0.036	0.017
3	Value	SVMradial	10	radial	0.500	0.029	0.004
4	Value	SVMradial	100	radial	0.500	0.036	0.003
5	Value	SVMradial	1000	radial	0.500	0.035	0.005
6	Value	SVMradial	10000	radial	0.500	0.036	0.005
7	Value	SVMradial	0	radial	1	0.024	0.003
8	Value	SVMradial	1	radial	1	0.025	0.004
9	Value	SVMradial	10	radial	1	0.040	0.021
10	Value	SVMradial	100	radial	1	0.028	0.003
11	Value	SVMradial	1000	radial	1	0.028	0.004
12	Value	SVMradial	10000	radial	1	0.028	0.004
13	Value	SVMradial	0	radial	2	0.024	0.004
14	Value	SVMradial	1	radial	2	0.024	0.004
15	Value	SVMradial	10	radial	2	0.023	0.005
16	Value	SVMradial	100	radial	2	0.024	0.005
17	Value	SVMradial	1000	radial	2	0.024	0.005
18	Value	SVMradial	10000	radial	2	0.023	0.004
19	Value	SVMradial	0	radial	4	0.022	0.004
20	Value	SVMradial	1	radial	4	0.022	0.005
21	Value	SVMradial	10	radial	4	0.022	0.005
22	Value	SVMradial	100	radial	4	0.022	0.005
23	Value	SVMradial	1000	radial	4	0.022	0.005
24	Value	SVMradial	10000	radial	4	0.022	0.003
25	Value	SVMradial	0	radial	8	0.021	0.004
26	Value	SVMradial	1	radial	8	0.021	0.005
27	Value	SVMradial	10	radial	8	0.021	0.005
28	Value	SVMradial	100	radial	8	0.021	0.005
29	Value	SVMradial	1000	radial	8	0.021	0.005
30	Value	SVMradial	10000	radial	8	0.021	0.005

### Quesito 3 – ISO1 | Parametro da predire: PCI

#### Decision Tree

IOObjectCollection (//Local Repository/p [...] /recente/Solutions-Processo3/ISO1/PCI/DT)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	539.326	104.239

#### Random Forest

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

ctCollection (//Local Repository/p [...] olutions-Processo3/ISO1/PCI/RandomForest) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo ↓	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	461.854	96.152
2	Value	Random Forest	20	446.306	93.021
3	Value	Random Forest	50	443.512	87.982
4	Value	Random Forest	100	438.598	80.433
5	Value	Random Forest	200	443.472	84.855
6	Value	Random Forest	500	445.811	97.487
7	Value	Random Forest	1000	441.661	113.494

## SVMdot

Views: Design Results Turbo Prep Auto Model Deployments

ctCollection (/Local Repository/p [...] ente/Solutions-Processo3/ISO1/PCI/SVMdot) X

Open in Turbo Prep Auto Model

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	683.330	127.140
2	Value	SVMdot	1	dot	442.331	53.971
3	Value	SVMdot	10	dot	334.530	47.465
4	Value	SVMdot	100	dot	155.465	66.260
5	Value	SVMdot	1000	dot	157.795	69.812
6	Value	SVMdot	10000	dot	159.011	77.278

Ulteriormente analizzato per valori di C pari a 1,2,4,6,8,10,20,40,60,80,100

Views: Design Results Turbo Prep Auto Model Deployments

Collection (LP - SVMdot (2)) X Log (9) X

Open in Turbo Prep Auto Model

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	683.330	127.140
2	Value	SVMdot	1	dot	442.331	53.971
3	Value	SVMdot	2	dot	416.424	46.885
4	Value	SVMdot	4	dot	388.550	44.795
5	Value	SVMdot	6	dot	368.519	41.923
6	Value	SVMdot	8	dot	351.172	46.692
7	Value	SVMdot	10	dot	334.807	54.835
8	Value	SVMdot	20	dot	260.137	50.513
9	Value	SVMdot	40	dot	178.380	55.729
10	Value	SVMdot	60	dot	159.121	65.487
11	Value	SVMdot	80	dot	156.266	65.370
12	Value	SVMdot	100	dot	154.930	64.531

## SVM Polynomial

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

[Collection //Local Repository/p \[...\] lutions-Processo3/ISO1/PCI/SVMPolinomial](#) [X](#)

Open in  [Turbo Prep](#)  [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMPolinomial	0	polynomial	1	683.330	127.140
2	Value	SVMPolinomial	1	polynomial	1	442.331	53.971
3	Value	SVMPolinomial	10	polynomial	1	334.530	47.465
4	Value	SVMPolinomial	100	polynomial	1	155.465	66.260
5	Value	SVMPolinomial	1000	polynomial	1	157.795	69.812
6	Value	SVMPolinomial	10000	polynomial	1	159.011	77.278
7	Value	SVMPolinomial	0	polynomial	2	795.535	141.082
8	Value	SVMPolinomial	1	polynomial	2	882.878	339.026
9	Value	SVMPolinomial	10	polynomial	2	993.521	457.612
10	Value	SVMPolinomial	100	polynomial	2	10501.037	8696.070
11	Value	SVMPolinomial	1000	polynomial	2	1247.657	618.685
12	Value	SVMPolinomial	10000	polynomial	2	859.456	238.615
13	Value	SVMPolinomial	0	polynomial	3	792.235	105.416
14	Value	SVMPolinomial	1	polynomial	3	104676.354	92985.931
15	Value	SVMPolinomial	10	polynomial	3	1702.538	1053.423
16	Value	SVMPolinomial	100	polynomial	3	1615.145	980.509
17	Value	SVMPolinomial	1000	polynomial	3	3884.922	3199.317
18	Value	SVMPolinomial	10000	polynomial	3	5367.105	3995.337
19	Value	SVMPolinomial	0	polynomial	4	820.029	114.750
20	Value	SVMPolinomial	1	polynomial	4	7445.045	4675.257
21	Value	SVMPolinomial	10	polynomial	4	11802.507	8644.446
22	Value	SVMPolinomial	100	polynomial	4	17657.320	12323.121
23	Value	SVMPolinomial	1000	polynomial	4	17698.939	14443.578
24	Value	SVMPolinomial	10000	polynomial	4	16935.196	11919.869
25	Value	SVMPolinomial	0	polynomial	5	845.219	189.193
26	Value	SVMPolinomial	1	polynomial	5	130437.132	124478.088
27	Value	SVMPolinomial	10	polynomial	5	62229.451	44811.058
28	Value	SVMPolinomial	100	polynomial	5	108717.048	79755.878
29	Value	SVMPolinomial	1000	polynomial	5	145698.315	121892.667
30	Value	SVMPolinomial	10000	polynomial	5	210171.657	183657.695

## SVM Radial

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

[EditCollection \(/Local Repository/p \[...\] e/Solutions-Processo3/ISO1/PCI/SVMradial\)](#) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	834.582	173.253
2	Value	SVMradial	1	radial	0.500	835.399	147.132
3	Value	SVMradial	10	radial	0.500	777.663	169.684
4	Value	SVMradial	100	radial	0.500	678.137	162.039
5	Value	SVMradial	1000	radial	0.500	548.066	190.368
6	Value	SVMradial	10000	radial	0.500	503.855	215.851
7	Value	SVMradial	0	radial	1	844.711	194.966
8	Value	SVMradial	1	radial	1	844.992	147.969
9	Value	SVMradial	10	radial	1	810.955	161.056
10	Value	SVMradial	100	radial	1	731.476	208.958
11	Value	SVMradial	1000	radial	1	630.487	192.995
12	Value	SVMradial	10000	radial	1	596.161	198.690
13	Value	SVMradial	0	radial	2	849.233	187.706
14	Value	SVMradial	1	radial	2	848.536	192.293
15	Value	SVMradial	10	radial	2	834.997	166.263
16	Value	SVMradial	100	radial	2	778.963	186.593
17	Value	SVMradial	1000	radial	2	704.029	252.594
18	Value	SVMradial	10000	radial	2	687.984	195.289
19	Value	SVMradial	0	radial	4	849.383	152.014
20	Value	SVMradial	1	radial	4	850.743	167.355
21	Value	SVMradial	10	radial	4	846.782	202.983
22	Value	SVMradial	100	radial	4	820.504	192.867
23	Value	SVMradial	1000	radial	4	767.235	168.553
24	Value	SVMradial	10000	radial	4	759.408	167.447
25	Value	SVMradial	0	radial	8	850.670	191.745
26	Value	SVMradial	1	radial	8	851.101	188.625
27	Value	SVMradial	10	radial	8	850.112	119.976
28	Value	SVMradial	100	radial	8	841.950	187.314
29	Value	SVMradial	1000	radial	8	813.640	188.541
30	Value	SVMradial	10000	radial	8	808.315	187.537

### Quesito 3 – ISO1 | Parametro da predire: PCS

#### Decision Tree

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

IOObjectCollection (//Local Repository/p [...] /recente/Solutions-Processo3/ISO1/PCS/DT) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	535.201	95.205

#### Random Forest

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

IOObjectCollection (//Local Repository/p [...] /olutions-Processo3/ISO1/PCS/RandomForest) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random Forest	10	459.810	106.198
2	Value	Random Forest	20	446.533	109.016
3	Value	Random Forest	50	446.126	94.654
4	Value	Random Forest	100	442.659	88.098
5	Value	Random Forest	200	445.456	92.637
6	Value	Random Forest	500	447.984	103.817
7	Value	Random Forest	1000	445.132	122.636

## SVMdot

Views:	Design	Results	Turbo Prep	Auto Model	Deployments
ctCollection (//Local Repository/p [...] ente/Solutions-Processo3/ISO1/PCS/SVMdot) <span style="float: right;">X</span>					
Open in	 Turbo Prep	 Auto Model			
Row No.	id	algoritmo	C	kernel_type	rmse
1	Value	SVMdot	0	dot	716.383
2	Value	SVMdot	1	dot	442.165
3	Value	SVMdot	10	dot	334.806
4	Value	SVMdot	100	dot	155.479
5	Value	SVMdot	1000	dot	157.838
6	Value	SVMdot	10000	dot	158.378
					76.856

Ulteriormente analizzato per valori di C pari a 0,1,2,4,6,8,10

Views:	Design	Results	Turbo Prep	Auto Model	Deployments
ctCollection (LP - SVMdot) <span style="float: right;">X</span>					
Open in	 Turbo Prep	 Auto Model			
Row No.	id	algoritmo	C	kernel_type	rmse
1	Value	SVMdot	0	dot	716.383
2	Value	SVMdot	1	dot	442.165
3	Value	SVMdot	2	dot	415.524
4	Value	SVMdot	4	dot	387.729
5	Value	SVMdot	6	dot	368.591
6	Value	SVMdot	8	dot	351.365
7	Value	SVMdot	10	dot	334.712
					55.280

## SVM Polynomial

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

[Collection \(/Local Repository/p \[...\] lutions-Processo3/ISO1/PCS/SVMpolinomial\)](#)

Open in  [Turbo Prep](#)  [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	716.383	137.461
2	Value	SVMpolinomial	1	polynomial	1	442.165	56.424
3	Value	SVMpolinomial	10	polynomial	1	334.806	47.667
4	Value	SVMpolinomial	100	polynomial	1	155.479	66.272
5	Value	SVMpolinomial	1000	polynomial	1	157.838	69.862
6	Value	SVMpolinomial	10000	polynomial	1	158.378	76.856
7	Value	SVMpolinomial	0	polynomial	2	844.317	153.947
8	Value	SVMpolinomial	1	polynomial	2	941.069	403.361
9	Value	SVMpolinomial	10	polynomial	2	1031.940	450.338
10	Value	SVMpolinomial	100	polynomial	2	14838.699	11822.525
11	Value	SVMpolinomial	1000	polynomial	2	1306.098	663.617
12	Value	SVMpolinomial	10000	polynomial	2	930.104	271.633
13	Value	SVMpolinomial	0	polynomial	3	836.707	116.731
14	Value	SVMpolinomial	1	polynomial	3	315947.406	294421.188
15	Value	SVMpolinomial	10	polynomial	3	125249.997	124872.450
16	Value	SVMpolinomial	100	polynomial	3	2188.524	1562.630
17	Value	SVMpolinomial	1000	polynomial	3	4057.246	3141.598
18	Value	SVMpolinomial	10000	polynomial	3	4066.626	3047.047
19	Value	SVMpolinomial	0	polynomial	4	866.279	122.751
20	Value	SVMpolinomial	1	polynomial	4	8123.997	5307.003
21	Value	SVMpolinomial	10	polynomial	4	11548.742	8277.502
22	Value	SVMpolinomial	100	polynomial	4	20818.917	15283.074
23	Value	SVMpolinomial	1000	polynomial	4	17466.742	13241.233
24	Value	SVMpolinomial	10000	polynomial	4	20735.791	13903.429
25	Value	SVMpolinomial	0	polynomial	5	892.147	205.164
26	Value	SVMpolinomial	1	polynomial	5	136451.102	129470.023
27	Value	SVMpolinomial	10	polynomial	5	95452.613	78494.808
28	Value	SVMpolinomial	100	polynomial	5	72749.100	55287.441
29	Value	SVMpolinomial	1000	polynomial	5	167242.316	151730.024
30	Value	SVMpolinomial	10000	polynomial	5	200212.191	166635.020

## SVM Radial

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

[Collection \(/Local Repository/p \[...\] e/Solutions-Processo3/ISO1/PCS/SVMradial\)](#) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	883.154	190.464
2	Value	SVMradial	1	radial	0.500	884.074	159.712
3	Value	SVMradial	10	radial	0.500	820.378	187.623
4	Value	SVMradial	100	radial	0.500	715.599	176.689
5	Value	SVMradial	1000	radial	0.500	580.793	204.491
6	Value	SVMradial	10000	radial	0.500	531.953	228.670
7	Value	SVMradial	0	radial	1	891.866	207.722
8	Value	SVMradial	1	radial	1	888.676	156.861
9	Value	SVMradial	10	radial	1	856.476	172.348
10	Value	SVMradial	100	radial	1	772.295	222.572
11	Value	SVMradial	1000	radial	1	665.230	207.986
12	Value	SVMradial	10000	radial	1	627.830	215.607
13	Value	SVMradial	0	radial	2	893.991	199.908
14	Value	SVMradial	1	radial	2	898.348	204.848
15	Value	SVMradial	10	radial	2	881.670	179.428
16	Value	SVMradial	100	radial	2	822.851	199.802
17	Value	SVMradial	1000	radial	2	742.354	268.879
18	Value	SVMradial	10000	radial	2	723.547	213.522
19	Value	SVMradial	0	radial	4	895.784	162.145
20	Value	SVMradial	1	radial	4	894.623	183.164
21	Value	SVMradial	10	radial	4	893.160	218.843
22	Value	SVMradial	100	radial	4	866.170	203.175
23	Value	SVMradial	1000	radial	4	808.542	180.118
24	Value	SVMradial	10000	radial	4	798.787	181.604
25	Value	SVMradial	0	radial	8	895.185	205.828
26	Value	SVMradial	1	radial	8	895.396	202.563
27	Value	SVMradial	10	radial	8	896.818	129.381
28	Value	SVMradial	100	radial	8	889.185	202.573
29	Value	SVMradial	1000	radial	8	858.240	204.136
30	Value	SVMradial	10000	radial	8	851.613	199.494

### Quesito 3 – ISO1 | Parametro da predire: Zolfo

#### DECISION TREE

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

IOObjectCollection (//Local Repository/p [...] ecente/Solutions-Processo3/ISO1/Zolfo/DT) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.026	0.005

#### RANDOM FOREST

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

IOObjectCollection (//Local Repository/p [...] utions-Processo3/ISO1/Zolfo/RandomForest) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	numbers_of_trees ↑	rmse	st_deviation
1	Value	Random Forest	10	0.021	0.003
2	Value	Random Forest	20	0.020	0.003
3	Value	Random Forest	50	0.020	0.005
4	Value	Random Forest	100	0.020	0.005
5	Value	Random Forest	200	0.020	0.004
6	Value	Random Forest	500	0.020	0.005
7	Value	Random Forest	1000	0.020	0.003

## SVM DOT

Views: Design Results Turbo Prep Auto Model Deployments

ctCollection (//Local Repository/p [...] te/Solutions-Processo3/ISO1/Zolfo/SVMdot) X

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	14.450	5.304
2	Value	SVMdot	1	dot	68.053	17.257
3	Value	SVMdot	10	dot	534.010	90.747
4	Value	SVMdot	100	dot	3565.533	1321.814
5	Value	SVMdot	1000	dot	5217.797	2161.846
6	Value	SVMdot	10000	dot	8942.527	4788.534

## Analizzato:

Views: Design Results Turbo Prep Auto Model Deployments

ctCollection (LP - SVMdot (5)) X Log (24) X

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	14.450	5.304
2	Value	SVMdot	1	dot	68.053	17.257
3	Value	SVMdot	2	dot	98.197	10.259
4	Value	SVMdot	4	dot	247.621	34.825
5	Value	SVMdot	6	dot	385.074	81.220
6	Value	SVMdot	8	dot	464.821	56.123
7	Value	SVMdot	10	dot	537.263	161.673
8	Value	SVMdot	20	dot	759.671	243.527
9	Value	SVMdot	40	dot	1592.463	524.512
10	Value	SVMdot	60	dot	2297.690	880.920
11	Value	SVMdot	80	dot	2915.567	965.490
12	Value	SVMdot	100	dot	3272.345	875.296

## SVM POLINOMIAL:

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

[ctCollection \(//Local Repository/p \[...\] tions-Processo3/ISO1/Zolfo/SVMpolinomial\)](#) [X](#)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.019	0.005
2	Value	SVMpolinomial	1	polynomial	1	0.013	0.003
3	Value	SVMpolinomial	10	polynomial	1	0.013	0.003
4	Value	SVMpolinomial	100	polynomial	1	0.021	0.008
5	Value	SVMpolinomial	1000	polynomial	1	0.026	0.009
6	Value	SVMpolinomial	10000	polynomial	1	0.057	0.036
7	Value	SVMpolinomial	0	polynomial	2	0.025	0.005
8	Value	SVMpolinomial	1	polynomial	2	0.027	0.006
9	Value	SVMpolinomial	10	polynomial	2	0.039	0.012
10	Value	SVMpolinomial	100	polynomial	2	0.079	0.052
11	Value	SVMpolinomial	1000	polynomial	2	0.048	0.016
12	Value	SVMpolinomial	10000	polynomial	2	0.073	0.041
13	Value	SVMpolinomial	0	polynomial	3	0.070	0.040
14	Value	SVMpolinomial	1	polynomial	3	0.064	0.035
15	Value	SVMpolinomial	10	polynomial	3	0.167	0.134
16	Value	SVMpolinomial	100	polynomial	3	0.140	0.096
17	Value	SVMpolinomial	1000	polynomial	3	0.128	0.103
18	Value	SVMpolinomial	10000	polynomial	3	0.187	0.137
19	Value	SVMpolinomial	0	polynomial	4	23.694	20.570
20	Value	SVMpolinomial	1	polynomial	4	1.376	1.201
21	Value	SVMpolinomial	10	polynomial	4	0.990	0.836
22	Value	SVMpolinomial	100	polynomial	4	1.234	1.044
23	Value	SVMpolinomial	1000	polynomial	4	0.731	0.548
24	Value	SVMpolinomial	10000	polynomial	4	0.668	0.505
25	Value	SVMpolinomial	0	polynomial	5	0.024	0.006
26	Value	SVMpolinomial	1	polynomial	5	2.071	1.785
27	Value	SVMpolinomial	10	polynomial	5	8.440	8.310
28	Value	SVMpolinomial	100	polynomial	5	0.702	0.562
29	Value	SVMpolinomial	1000	polynomial	5	3.457	3.126
30	Value	SVMpolinomial	10000	polynomial	5	1.941	1.651

## SVM RADIAL:

Views: [Design](#) [Results](#) [Turbo Prep](#) [Auto Model](#) [Deployments](#)

[SelectCollection //Local Repository/p \[...\] Solutions-Processo3/ISO1/Zolfo/SVMradial\]](#) [X](#)

Open in  [Turbo Prep](#)  [Auto Model](#)

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.042	0.016
2	Value	SVMradial	1	radial	0.500	0.034	0.012
3	Value	SVMradial	10	radial	0.500	0.030	0.003
4	Value	SVMradial	100	radial	0.500	0.034	0.006
5	Value	SVMradial	1000	radial	0.500	0.034	0.006
6	Value	SVMradial	10000	radial	0.500	0.034	0.005
7	Value	SVMradial	0	radial	1	0.027	0.006
8	Value	SVMradial	1	radial	1	0.037	0.016
9	Value	SVMradial	10	radial	1	0.055	0.030
10	Value	SVMradial	100	radial	1	0.031	0.005
11	Value	SVMradial	1000	radial	1	0.031	0.005
12	Value	SVMradial	10000	radial	1	0.031	0.005
13	Value	SVMradial	0	radial	2	0.025	0.006
14	Value	SVMradial	1	radial	2	0.025	0.006
15	Value	SVMradial	10	radial	2	0.026	0.005
16	Value	SVMradial	100	radial	2	0.026	0.006
17	Value	SVMradial	1000	radial	2	0.026	0.006
18	Value	SVMradial	10000	radial	2	0.026	0.005
19	Value	SVMradial	0	radial	4	0.024	0.005
20	Value	SVMradial	1	radial	4	0.024	0.007
21	Value	SVMradial	10	radial	4	0.024	0.006
22	Value	SVMradial	100	radial	4	0.024	0.005
23	Value	SVMradial	1000	radial	4	0.024	0.007
24	Value	SVMradial	10000	radial	4	0.024	0.006
25	Value	SVMradial	0	radial	8	0.024	0.006
26	Value	SVMradial	1	radial	8	0.024	0.006
27	Value	SVMradial	10	radial	8	0.023	0.006
28	Value	SVMradial	100	radial	8	0.024	0.006
29	Value	SVMradial	1000	radial	8	0.023	0.006
30	Value	SVMradial	10000	radial	8	0.024	0.007

### **Quesito 3 – ISO2 | Parametro da predire: PCS**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	645.212	312.644

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random For...	10	602.518	396.310
2	Value	Random For...	20	602.292	314.610
3	Value	Random For...	50	572.368	391.748
4	Value	Random For...	100	597.064	307.540
5	Value	Random For...	200	578.248	399.962
6	Value	Random For...	500	578.507	371.916
7	Value	Random For...	1000	585.209	324.511

Analizzato:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random For...	10	561.876	328.444
2	Value	Random For...	20	591.286	384.550
3	Value	Random For...	30	584.591	309.913
4	Value	Random For...	40	578.045	395.004
5	Value	Random For...	50	624.289	315.320
6	Value	Random For...	100	579.058	399.806
7	Value	Random For...	200	577.615	370.847
8	Value	Random For...	500	586.097	325.378
9	Value	Random For...	1000	572.015	408.931

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	704.543	355.086
2	Value	SVMdot	1	dot	658.928	345.568
3	Value	SVMdot	10	dot	446.013	157.773
4	Value	SVMdot	100	dot	389.051	194.273
5	Value	SVMdot	1000	dot	321.659	158.211
6	Value	SVMdot	10000	dot	235.307	168.353

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	736.325	440.548
2	Value	SVMdot	1	dot	657.730	414.249
3	Value	SVMdot	10	dot	438.251	160.153
4	Value	SVMdot	20	dot	342.208	207.140
5	Value	SVMdot	40	dot	337.688	146.308
6	Value	SVMdot	60	dot	368.077	171.201
7	Value	SVMdot	80	dot	363.837	159.499
8	Value	SVMdot	100	dot	386.146	167.964
9	Value	SVMdot	1000	dot	306.852	163.901
10	Value	SVMdot	10000	dot	190.203	131.434

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	726.948	448.099
2	Value	SVMradial	1	radial	0.500	735.510	394.666
3	Value	SVMradial	10	radial	0.500	718.127	445.431
4	Value	SVMradial	100	radial	0.500	697.715	407.551
5	Value	SVMradial	1000	radial	0.500	673.480	365.330
6	Value	SVMradial	10000	radial	0.500	710.428	364.810
7	Value	SVMradial	0	radial	1	712.388	354.008
8	Value	SVMradial	1	radial	1	720.447	424.617
9	Value	SVMradial	10	radial	1	725.003	417.412
10	Value	SVMradial	100	radial	1	699.567	384.046
11	Value	SVMradial	1000	radial	1	692.799	403.951
12	Value	SVMradial	10000	radial	1	699.596	423.190
13	Value	SVMradial	0	radial	2	747.375	400.335
14	Value	SVMradial	1	radial	2	717.724	363.648
15	Value	SVMradial	10	radial	2	728.511	422.256
16	Value	SVMradial	100	radial	2	722.692	356.133

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	714.942	349.518
2	Value	SVMpolinomial	1	polynomial	1	646.709	315.910
3	Value	SVMpolinomial	10	polynomial	1	446.606	189.939
4	Value	SVMpolinomial	100	polynomial	1	365.730	137.072
5	Value	SVMpolinomial	1000	polynomial	1	323.987	161.629
6	Value	SVMpolinomial	10000	polynomial	1	205.809	133.718
7	Value	SVMpolinomial	0	polynomial	2	714.464	405.628
8	Value	SVMpolinomial	1	polynomial	2	606.020	238.044
9	Value	SVMpolinomial	10	polynomial	2	1195.860	900.859
10	Value	SVMpolinomial	100	polynomial	2	3487.663	2916.918
11	Value	SVMpolinomial	1000	polynomial	2	6213.865	5009.886
12	Value	SVMpolinomial	10000	polynomial	2	2224176.378	2288862.920
13	Value	SVMpolinomial	0	polynomial	3	688.595	305.243
14	Value	SVMpolinomial	1	polynomial	3	10145.271	9285.263
15	Value	SVMpolinomial	10	polynomial	3	11954.802	12501.687
16	Value	SVMpolinomial	100	polynomial	3	34378.377	30394.426

## ISO2 – PCI:

### DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	620.396	312.346

### RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random For...	10	601.353	392.382
2	Value	Random For...	20	608.366	338.651
3	Value	Random For...	50	563.546	376.537
4	Value	Random For...	100	577.249	288.788
5	Value	Random For...	200	578.709	397.712
6	Value	Random For...	500	570.717	369.581
7	Value	Random For...	1000	583.629	317.308

## SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	701.163	424.904
2	Value	SVMdot	1	dot	650.866	424.785
3	Value	SVMdot	10	dot	493.037	208.644
4	Value	SVMdot	100	dot	346.785	198.902
5	Value	SVMdot	1000	dot	300.144	128.255
6	Value	SVMdot	10000	dot	212.577	175.927

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	701.163	424.904
2	Value	SVMdot	1	dot	650.866	424.785
3	Value	SVMdot	2	dot	608.642	290.394
4	Value	SVMdot	4	dot	551.763	340.750
5	Value	SVMdot	6	dot	558.207	261.962
6	Value	SVMdot	8	dot	511.236	292.883
7	Value	SVMdot	10	dot	496.370	254.715
8	Value	SVMdot	100	dot	374.992	138.942
9	Value	SVMdot	1000	dot	304.451	163.873
10	Value	SVMdot	10000	dot	199.165	138.973

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	708.377	430.394
2	Value	SVMradial	1	radial	0.500	693.300	455.238
3	Value	SVMradial	10	radial	0.500	694.136	342.404
4	Value	SVMradial	100	radial	0.500	670.616	434.279
5	Value	SVMradial	1000	radial	0.500	679.179	353.780
6	Value	SVMradial	10000	radial	0.500	682.856	448.903
7	Value	SVMradial	0	radial	1	682.336	409.510
8	Value	SVMradial	1	radial	1	698.909	358.075
9	Value	SVMradial	10	radial	1	686.652	440.586
10	Value	SVMradial	100	radial	1	684.990	369.930
11	Value	SVMradial	1000	radial	1	674.380	400.358
12	Value	SVMradial	10000	radial	1	693.498	394.461
13	Value	SVMradial	0	radial	2	680.392	320.960
14	Value	SVMradial	1	radial	2	680.333	322.068
15	Value	SVMradial	10	radial	2	682.364	355.734
16	Value	SVMradial	100	radial	2	676.320	425.421

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
15	Value	SVMradial	10	radial	2	682.364	355.734
16	Value	SVMradial	100	radial	2	676.320	425.421
17	Value	SVMradial	1000	radial	2	669.121	414.602
18	Value	SVMradial	10000	radial	2	666.109	357.840
19	Value	SVMradial	0	radial	4	703.217	391.627
20	Value	SVMradial	1	radial	4	696.413	408.896
21	Value	SVMradial	10	radial	4	707.066	395.738
22	Value	SVMradial	100	radial	4	679.867	374.374
23	Value	SVMradial	1000	radial	4	681.035	403.404
24	Value	SVMradial	10000	radial	4	684.480	322.779
25	Value	SVMradial	0	radial	8	690.818	339.140
26	Value	SVMradial	1	radial	8	687.762	349.912
27	Value	SVMradial	10	radial	8	691.788	365.625
28	Value	SVMradial	100	radial	8	688.161	338.708
29	Value	SVMradial	1000	radial	8	684.963	396.745
30	Value	SVMradial	10000	radial	8	690.449	355.536

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	701.163	424.904
2	Value	SVMpolinomial	1	polynomial	1	650.866	424.785
3	Value	SVMpolinomial	10	polynomial	1	493.037	208.644
4	Value	SVMpolinomial	100	polynomial	1	346.785	198.902
5	Value	SVMpolinomial	1000	polynomial	1	300.144	128.255
6	Value	SVMpolinomial	10000	polynomial	1	212.577	175.927
7	Value	SVMpolinomial	0	polynomial	2	680.697	406.321
8	Value	SVMpolinomial	1	polynomial	2	655.951	249.777
9	Value	SVMpolinomial	10	polynomial	2	1191.880	808.759
10	Value	SVMpolinomial	100	polynomial	2	1562.915	1030.782
11	Value	SVMpolinomial	1000	polynomial	2	9418.731	7643.832
12	Value	SVMpolinomial	10000	polynomial	2	1693486.568	1564204.544
13	Value	SVMpolinomial	0	polynomial	3	674.487	314.213
14	Value	SVMpolinomial	1	polynomial	3	2971.242	2552.432
15	Value	SVMpolinomial	10	polynomial	3	8572.913	7512.349
16	Value	SVMpolinomial	100	polynomial	3	104129.300	106016.150

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
15	Value	SVMpolinomial	10	polynomial	3	8572.913	7512.349
16	Value	SVMpolinomial	100	polynomial	3	104129.300	106016.150
17	Value	SVMpolinomial	1000	polynomial	3	19104.093	18010.047
18	Value	SVMpolinomial	10000	polynomial	3	48066.002	41886.408
19	Value	SVMpolinomial	0	polynomial	4	700.301	388.098
20	Value	SVMpolinomial	1	polynomial	4	17253.069	15501.568
21	Value	SVMpolinomial	10	polynomial	4	93043.689	81841.938
22	Value	SVMpolinomial	100	polynomial	4	47621.377	42437.065
23	Value	SVMpolinomial	1000	polynomial	4	4526769.428	4871399.531
24	Value	SVMpolinomial	10000	polynomial	4	83276.018	74286.173
25	Value	SVMpolinomial	0	polynomial	5	686.407	334.096
26	Value	SVMpolinomial	1	polynomial	5	308063.819	284780.128
27	Value	SVMpolinomial	10	polynomial	5	829296.496	846198.122
28	Value	SVMpolinomial	100	polynomial	5	4949109.141	4424803.935
29	Value	SVMpolinomial	1000	polynomial	5	4998522.389	4610180.715
30	Value	SVMpolinomial	10000	polynomial	5	1991651.593	1828866.727

## **ISO2 - CLORO:**

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.205	0.085

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random For...	10	0.166	0.056
2	Value	Random For...	20	0.166	0.062
3	Value	Random For...	50	0.168	0.070
4	Value	Random For...	100	0.162	0.068
5	Value	Random For...	200	0.164	0.057
6	Value	Random For...	500	0.164	0.071
7	Value	Random For...	1000	0.164	0.076

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.192	0.091
2	Value	SVMdot	1	dot	0.212	0.124
3	Value	SVMdot	10	dot	1.021	1.031
4	Value	SVMdot	100	dot	30.552	31.540
5	Value	SVMdot	1000	dot	0.047	0.013
6	Value	SVMdot	10000	dot	0.118	0.080

Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.192	0.091
2	Value	SVMdot	1	dot	0.212	0.124
3	Value	SVMdot	2	dot	0.169	0.088
4	Value	SVMdot	4	dot	0.139	0.076
5	Value	SVMdot	6	dot	0.086	0.037
6	Value	SVMdot	8	dot	1.922	1.961
7	Value	SVMdot	10	dot	0.988	0.859
8	Value	SVMdot	20	dot	0.044	0.020
9	Value	SVMdot	40	dot	2.155	2.208
10	Value	SVMdot	60	dot	0.054	0.024
11	Value	SVMdot	80	dot	0.052	0.020
12	Value	SVMdot	100	dot	0.050	0.023
13	Value	SVMdot	1000	dot	605.721	625.572
14	Value	SVMdot	10000	dot	0.066	0.032

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.178	0.069
2	Value	SVMradial	1	radial	0.500	0.169	0.063
3	Value	SVMradial	10	radial	0.500	0.169	0.060
4	Value	SVMradial	100	radial	0.500	0.167	0.063
5	Value	SVMradial	1000	radial	0.500	0.163	0.050
6	Value	SVMradial	10000	radial	0.500	0.160	0.063
7	Value	SVMradial	0	radial	1	0.159	0.062
8	Value	SVMradial	1	radial	1	0.163	0.077
9	Value	SVMradial	10	radial	1	0.173	0.072
10	Value	SVMradial	100	radial	1	0.162	0.077
11	Value	SVMradial	1000	radial	1	0.161	0.056
12	Value	SVMradial	10000	radial	1	0.155	0.064
13	Value	SVMradial	0	radial	2	0.161	0.058
14	Value	SVMradial	1	radial	2	0.167	0.068
15	Value	SVMradial	10	radial	2	0.160	0.067
16	Value	SVMradial	100	radial	2	0.167	0.068
17	Value	SVMradial	1000	radial	2	0.169	0.043
18	Value	SVMradial	10000	radial	2	0.163	0.058
19	Value	SVMradial	0	radial	4	0.170	0.060
20	Value	SVMradial	1	radial	4	0.164	0.055
21	Value	SVMradial	10	radial	4	0.166	0.055
22	Value	SVMradial	100	radial	4	0.165	0.054
23	Value	SVMradial	1000	radial	4	0.168	0.060
24	Value	SVMradial	10000	radial	4	0.167	0.052
25	Value	SVMradial	0	radial	8	0.169	0.074
26	Value	SVMradial	1	radial	8	0.163	0.059
27	Value	SVMradial	10	radial	8	0.169	0.055
28	Value	SVMradial	100	radial	8	0.165	0.052
29	Value	SVMradial	1000	radial	8	0.166	0.046
30	Value	SVMradial	10000	radial	8	0.167	0.051

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.192	0.091
2	Value	SVMpolinomial	1	polynomial	1	0.212	0.124
3	Value	SVMpolinomial	10	polynomial	1	1.021	1.031
4	Value	SVMpolinomial	100	polynomial	1	30.552	31.540
5	Value	SVMpolinomial	1000	polynomial	1	0.047	0.013
6	Value	SVMpolinomial	10000	polynomial	1	0.118	0.080
7	Value	SVMpolinomial	0	polynomial	2	0.668	0.605
8	Value	SVMpolinomial	1	polynomial	2	5.224	4.893
9	Value	SVMpolinomial	10	polynomial	2	268.367	259.469
10	Value	SVMpolinomial	100	polynomial	2	108.477	110.044
11	Value	SVMpolinomial	1000	polynomial	2	4.007	3.219
12	Value	SVMpolinomial	10000	polynomial	2	3.499	2.929
13	Value	SVMpolinomial	0	polynomial	3	2.582	2.257
14	Value	SVMpolinomial	1	polynomial	3	10.284	9.846
15	Value	SVMpolinomial	10	polynomial	3	33.993	34.347
16	Value	SVMpolinomial	100	polynomial	3	4.451	3.573
17	Value	SVMpolinomial	1000	polynomial	3	15.811	16.125
18	Value	SVMpolinomial	10000	polynomial	3	24.355	24.329
19	Value	SVMpolinomial	0	polynomial	4	2.458	2.452
20	Value	SVMpolinomial	1	polynomial	4	44.267	41.868
21	Value	SVMpolinomial	10	polynomial	4	33.364	30.824
22	Value	SVMpolinomial	100	polynomial	4	39.327	37.954
23	Value	SVMpolinomial	1000	polynomial	4	81.336	82.408
24	Value	SVMpolinomial	10000	polynomial	4	58.486	55.939
25	Value	SVMpolinomial	0	polynomial	5	2.208	2.229
26	Value	SVMpolinomial	1	polynomial	5	242.442	213.386
27	Value	SVMpolinomial	10	polynomial	5	56.659	52.903
28	Value	SVMpolinomial	100	polynomial	5	172.059	167.677
29	Value	SVMpolinomial	1000	polynomial	5	244.359	210.016
30	Value	SVMpolinomial	10000	polynomial	5	282.587	245.966

## ISO2 – ZOLFO:

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.058	0.029

RANDOM FOREST:

Row No.	id	algoritmo	numbers_of...	rmse	st_deviation
1	Value	Random For...	10	0.043	0.029
2	Value	Random For...	20	0.046	0.027
3	Value	Random For...	50	0.045	0.026
4	Value	Random For...	100	0.043	0.024
5	Value	Random For...	200	0.043	0.022
6	Value	Random For...	500	0.041	0.027
7	Value	Random For...	1000	0.042	0.025

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.054	0.028
2	Value	SVMdot	1	dot	0.047	0.024
3	Value	SVMdot	10	dot	0.051	0.024
4	Value	SVMdot	100	dot	0.048	0.020
5	Value	SVMdot	1000	dot	169.343	160.220
6	Value	SVMdot	10000	dot	0.131	0.100

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.050	0.034
2	Value	SVMradial	1	radial	0.500	0.051	0.032
3	Value	SVMradial	10	radial	0.500	0.048	0.029
4	Value	SVMradial	100	radial	0.500	0.052	0.032
5	Value	SVMradial	1000	radial	0.500	0.049	0.027
6	Value	SVMradial	10000	radial	0.500	0.052	0.034
7	Value	SVMradial	0	radial	1	0.048	0.027
8	Value	SVMradial	1	radial	1	0.046	0.026
9	Value	SVMradial	10	radial	1	0.049	0.025
10	Value	SVMradial	100	radial	1	0.048	0.027
11	Value	SVMradial	1000	radial	1	0.045	0.022
12	Value	SVMradial	10000	radial	1	0.048	0.028
13	Value	SVMradial	0	radial	2	0.045	0.025
14	Value	SVMradial	1	radial	2	0.045	0.019
15	Value	SVMradial	10	radial	2	0.045	0.024
16	Value	SVMradial	100	radial	2	0.044	0.026

17	Value	SVMradial	1000	radial	2	0.045	0.026
18	Value	SVMradial	10000	radial	2	0.045	0.023
19	Value	SVMradial	0	radial	4	0.045	0.021
20	Value	SVMradial	1	radial	4	0.044	0.022
21	Value	SVMradial	10	radial	4	0.045	0.023
22	Value	SVMradial	100	radial	4	0.044	0.025
23	Value	SVMradial	1000	radial	4	0.045	0.022
24	Value	SVMradial	10000	radial	4	0.044	0.025
25	Value	SVMradial	0	radial	8	0.045	0.023
26	Value	SVMradial	1	radial	8	0.046	0.028
27	Value	SVMradial	10	radial	8	0.045	0.024
28	Value	SVMradial	100	radial	8	0.045	0.021
29	Value	SVMradial	1000	radial	8	0.045	0.024
30	Value	SVMradial	10000	radial	8	0.045	0.022

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_degr...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.054	0.028
2	Value	SVMpolinomial	1	polynomial	1	0.047	0.024
3	Value	SVMpolinomial	10	polynomial	1	0.051	0.024
4	Value	SVMpolinomial	100	polynomial	1	0.048	0.020
5	Value	SVMpolinomial	1000	polynomial	1	169.343	160.220
6	Value	SVMpolinomial	10000	polynomial	1	0.131	0.100
7	Value	SVMpolinomial	0	polynomial	2	0.069	0.039
8	Value	SVMpolinomial	1	polynomial	2	13.996	10.999
9	Value	SVMpolinomial	10	polynomial	2	3.667	3.690
10	Value	SVMpolinomial	100	polynomial	2	0.581	0.470
11	Value	SVMpolinomial	1000	polynomial	2	1.036	0.843
12	Value	SVMpolinomial	10000	polynomial	2	0.593	0.492
13	Value	SVMpolinomial	0	polynomial	3	0.529	0.457
14	Value	SVMpolinomial	1	polynomial	3	5.309	5.119
15	Value	SVMpolinomial	10	polynomial	3	1.889	1.501
16	Value	SVMpolinomial	100	polynomial	3	10.837	9.401
17	Value	SVMpolinomial	1000	polynomial	3	4.336	4.304
18	Value	SVMpolinomial	10000	polynomial	3	4.062	3.781
19	Value	SVMpolinomial	0	polynomial	4	0.948	0.962
20	Value	SVMpolinomial	1	polynomial	4	22.061	21.895
21	Value	SVMpolinomial	10	polynomial	4	23.018	23.201
22	Value	SVMpolinomial	100	polynomial	4	28.059	28.801
23	Value	SVMpolinomial	1000	polynomial	4	21.038	21.377
24	Value	SVMpolinomial	10000	polynomial	4	64.231	64.535
25	Value	SVMpolinomial	0	polynomial	5	1.657	1.696
26	Value	SVMpolinomial	1	polynomial	5	166.344	143.752
27	Value	SVMpolinomial	10	polynomial	5	130.432	133.058
28	Value	SVMpolinomial	100	polynomial	5	196.766	199.002
29	Value	SVMpolinomial	1000	polynomial	5	189.400	164.941
30	Value	SVMpolinomial	10000	polynomial	5	236.093	206.881

### Quesito 3 – ISO5 | Parametro da predire: Cloro

DECISION TREE:

IOObjectCollection (//Local Repository/d [...] ito 3 ISO5/Cloro/ISO5\_Cloro\_De)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.201	0.113

RANDOM FOREST:

ExampleSet (//Local Repository/data/Ques [...] ito 3 ISO5/Cloro/ISO5\_Cloro\_)

Open in [Turbo Prep](#) [Auto Model](#)

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.150	0.092
2	Value	Random For...	20	0.152	0.065
3	Value	Random For...	50	0.142	0.067
4	Value	Random For...	100	0.138	0.080
5	Value	Random For...	200	0.145	0.089
6	Value	Random For...	500	0.149	0.077
7	Value	Random For...	1000	0.148	0.076

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.126	0.069
2	Value	SVMdot	1	dot	0.168	0.094
3	Value	SVMdot	10	dot	0.167	0.090
4	Value	SVMdot	100	dot	0.050	0.041
5	Value	SVMdot	1000	dot	0.037	0.027
6	Value	SVMdot	10000	dot	0.040	0.024

## SVM POLYNOMIAL:

ExampleSet //Local Repository/data/Ques [...] to 3 ISO5/Cloro/ISO5\_Cloro\_SvmPolinomi

Open in  Turbo Prep

 Auto Model

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.126	0.069
2	Value	SVMpolinomial	1	polynomial	1	0.168	0.094
3	Value	SVMpolinomial	10	polynomial	1	0.167	0.090
4	Value	SVMpolinomial	100	polynomial	1	0.050	0.041
5	Value	SVMpolinomial	1000	polynomial	1	0.037	0.027
6	Value	SVMpolinomial	10000	polynomial	1	0.040	0.024
7	Value	SVMpolinomial	0	polynomial	2	0.465	0.398
8	Value	SVMpolinomial	1	polynomial	2	1.003	0.717
9	Value	SVMpolinomial	10	polynomial	2	1.056	0.864
10	Value	SVMpolinomial	100	polynomial	2	1.063	0.809
11	Value	SVMpolinomial	1000	polynomial	2	0.970	0.691
12	Value	SVMpolinomial	10000	polynomial	2	0.750	0.569
13	Value	SVMpolinomial	0	polynomial	3	0.332	0.305
14	Value	SVMpolinomial	1	polynomial	3	2.802	2.783
15	Value	SVMpolinomial	10	polynomial	3	2.617	1.899
16	Value	SVMpolinomial	100	polynomial	3	1.221	1.203
17	Value	SVMpolinomial	1000	polynomial	3	2.692	2.847
18	Value	SVMpolinomial	10000	polynomial	3	2.492	2.711
19	Value	SVMpolinomial	0	polynomial	4	0.616	0.470
20	Value	SVMpolinomial	1	polynomial	4	4.452	3.406
21	Value	SVMpolinomial	10	polynomial	4	6.114	4.580
22	Value	SVMpolinomial	100	polynomial	4	8.371	8.910
23	Value	SVMpolinomial	1000	polynomial	4	6.373	4.692
24	Value	SVMpolinomial	10000	polynomial	4	8.183	8.679
25	Value	SVMpolinomial	0	polynomial	5	0.495	0.331
26	Value	SVMpolinomial	1	polynomial	5	30.481	23.695
27	Value	SVMpolinomial	10	polynomial	5	16.199	12.924
28	Value	SVMpolinomial	100	polynomial	5	14.275	11.632
29	Value	SVMpolinomial	1000	polynomial	5	27.733	30.570
30	Value	SVMpolinomial	10000	polynomial	5	27.934	30.692

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.150	0.096
2	Value	SVMradial	1	radial	0.500	0.148	0.067
3	Value	SVMradial	10	radial	0.500	0.148	0.079
4	Value	SVMradial	100	radial	0.500	0.146	0.078
5	Value	SVMradial	1000	radial	0.500	0.148	0.099
6	Value	SVMradial	10000	radial	0.500	0.146	0.076
7	Value	SVMradial	0	radial	1	0.166	0.089
8	Value	SVMradial	1	radial	1	0.156	0.081
9	Value	SVMradial	10	radial	1	0.156	0.082
10	Value	SVMradial	100	radial	1	0.159	0.112
11	Value	SVMradial	1000	radial	1	0.158	0.087
12	Value	SVMradial	10000	radial	1	0.162	0.086
13	Value	SVMradial	0	radial	2	0.171	0.121
14	Value	SVMradial	1	radial	2	0.173	0.128
15	Value	SVMradial	10	radial	2	0.169	0.128
16	Value	SVMradial	100	radial	2	0.167	0.100
17	Value	SVMradial	1000	radial	2	0.170	0.123
18	Value	SVMradial	10000	radial	2	0.176	0.095
19	Value	SVMradial	0	radial	4	0.178	0.128
20	Value	SVMradial	1	radial	4	0.171	0.100
21	Value	SVMradial	10	radial	4	0.174	0.130
22	Value	SVMradial	100	radial	4	0.178	0.099
23	Value	SVMradial	1000	radial	4	0.175	0.129
24	Value	SVMradial	10000	radial	4	0.176	0.117
25	Value	SVMradial	0	radial	8	0.171	0.096
26	Value	SVMradial	1	radial	8	0.175	0.100
26	Value	SVMradial	1	radial	8	0.175	0.100
27	Value	SVMradial	10	radial	8	0.172	0.128
28	Value	SVMradial	100	radial	8	0.175	0.129
29	Value	SVMradial	1000	radial	8	0.176	0.126
30	Value	SVMradial	10000	radial	8	0.182	0.112

### Quesito 3 – ISO5 | Parametro da predire: PCI

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0	0

RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	697.758	304.072
2	Value	Random For...	20	615.000	294.356
3	Value	Random For...	50	631.781	336.047
4	Value	Random For...	100	657.170	347.730
5	Value	Random For...	200	692.128	385.435
6	Value	Random For...	500	663.744	378.449
7	Value	Random For...	1000	643.165	332.983

Analizzato:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	697.758	304.072
2	Value	Random For...	12	571.339	293.455
3	Value	Random For...	14	661.330	324.389
4	Value	Random For...	16	656.754	338.779
5	Value	Random For...	18	719.193	392.924
6	Value	Random For...	20	663.878	353.454
7	Value	Random For...	50	643.807	326.110
8	Value	Random For...	100	731.457	428.794
9	Value	Random For...	200	660.554	372.514
10	Value	Random For...	500	644.151	287.899
11	Value	Random For...	1000	606.281	361.621

## SVM DOT

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	769.493	468.474
2	Value	SVMdot	1	dot	771.723	508.413
3	Value	SVMdot	10	dot	700.971	341.720
4	Value	SVMdot	100	dot	459.849	309.855
5	Value	SVMdot	1000	dot	574.367	249.795
6	Value	SVMdot	10000	dot	456.565	198.098

Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	769.493	468.474
2	Value	SVMdot	1	dot	771.723	508.413
3	Value	SVMdot	10	dot	700.971	341.720
4	Value	SVMdot	20	dot	705.636	333.543
5	Value	SVMdot	40	dot	594.782	279.501
6	Value	SVMdot	60	dot	495.906	285.998
7	Value	SVMdot	80	dot	461.027	302.961
8	Value	SVMdot	100	dot	466.962	302.863
9	Value	SVMdot	200	dot	490.522	312.351
10	Value	SVMdot	400	dot	595.301	280.346
11	Value	SVMdot	600	dot	601.670	253.736
12	Value	SVMdot	800	dot	586.727	310.240
13	Value	SVMdot	1000	dot	614.097	300.745
14	Value	SVMdot	10000	dot	526.453	280.976

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	769.493	468.474
2	Value	SVMpolinomial	1	polynomial	1	771.723	508.413
3	Value	SVMpolinomial	10	polynomial	1	700.971	341.720
4	Value	SVMpolinomial	100	polynomial	1	459.849	309.855
5	Value	SVMpolinomial	1000	polynomial	1	574.367	249.795
6	Value	SVMpolinomial	10000	polynomial	1	456.565	198.098
7	Value	SVMpolinomial	0	polynomial	2	765.791	503.435
8	Value	SVMpolinomial	1	polynomial	2	798.036	561.144
9	Value	SVMpolinomial	10	polynomial	2	1119.603	840.712
10	Value	SVMpolinomial	100	polynomial	2	1754.653	1548.176
11	Value	SVMpolinomial	1000	polynomial	2	2096.313	1084.278
12	Value	SVMpolinomial	10000	polynomial	2	2285.180	1174.218
13	Value	SVMpolinomial	0	polynomial	3	778.980	470.042
14	Value	SVMpolinomial	1	polynomial	3	929.713	618.555
15	Value	SVMpolinomial	10	polynomial	3	2887.863	2076.189
16	Value	SVMpolinomial	100	polynomial	3	2097.282	1804.903
17	Value	SVMpolinomial	1000	polynomial	3	2725.098	2162.928
18	Value	SVMpolinomial	10000	polynomial	3	2619.186	1791.218
19	Value	SVMpolinomial	0	polynomial	4	760.904	426.800
20	Value	SVMpolinomial	1	polynomial	4	3395.355	2498.553
21	Value	SVMpolinomial	10	polynomial	4	3147.018	2159.498
22	Value	SVMpolinomial	100	polynomial	4	22863.908	24333.224
23	Value	SVMpolinomial	1000	polynomial	4	14095.789	10416.835
24	Value	SVMpolinomial	10000	polynomial	4	23295.635	24469.146
25	Value	SVMpolinomial	0	polynomial	5	795.728	551.679
26	Value	SVMpolinomial	1	polynomial	5	27489.284	21141.360
27	Value	SVMpolinomial	10	polynomial	5	13238.386	12666.423
28	Value	SVMpolinomial	100	polynomial	5	9820.012	9756.084
29	Value	SVMpolinomial	1000	polynomial	5	22492.792	18616.518
30	Value	SVMpolinomial	10000	polynomial	5	20163.250	18614.236

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	770.720	469.943
2	Value	SVMradial	1	radial	0.500	787.697	528.121
3	Value	SVMradial	10	radial	0.500	759.102	468.041
4	Value	SVMradial	100	radial	0.500	755.973	507.272
5	Value	SVMradial	1000	radial	0.500	766.039	459.184
6	Value	SVMradial	10000	radial	0.500	731.610	468.941
7	Value	SVMradial	0	radial	1	765.979	503.174
8	Value	SVMradial	1	radial	1	790.905	519.868
9	Value	SVMradial	10	radial	1	791.536	538.724
10	Value	SVMradial	100	radial	1	760.894	467.439
11	Value	SVMradial	1000	radial	1	775.302	499.559
12	Value	SVMradial	10000	radial	1	784.365	536.807
13	Value	SVMradial	0	radial	2	780.596	471.784
14	Value	SVMradial	1	radial	2	806.207	578.949
15	Value	SVMradial	10	radial	2	801.653	572.426
16	Value	SVMradial	100	radial	2	772.440	455.746
17	Value	SVMradial	1000	radial	2	814.090	478.986
18	Value	SVMradial	10000	radial	2	808.576	534.352
19	Value	SVMradial	0	radial	4	761.263	426.978
20	Value	SVMradial	1	radial	4	784.113	516.145
21	Value	SVMradial	10	radial	4	784.801	433.787
22	Value	SVMradial	100	radial	4	765.386	474.570
23	Value	SVMradial	1000	radial	4	796.252	501.908
24	Value	SVMradial	10000	radial	4	821.992	523.621
25	Value	SVMradial	0	radial	8	796.705	552.880
26	Value	SVMradial	1	radial	8	803.793	583.301
27	Value	SVMradial	10	radial	8	804.499	522.339
28	Value	SVMradial	100	radial	8	766.393	454.393
29	Value	SVMradial	1000	radial	8	834.295	570.152
30	Value	SVMradial	10000	radial	8	788.089	541.888

### Quesito 3 – ISO5 | Parametro da predire: PCS

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	998.974	325.727

RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	680.392	381.290
2	Value	Random For...	20	700.878	356.989
3	Value	Random For...	50	651.320	356.080
4	Value	Random For...	100	680.636	387.041
5	Value	Random For...	200	751.121	427.840
6	Value	Random For...	500	697.721	417.746
7	Value	Random For...	1000	686.855	368.218

Analizzato:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	680.392	381.290
2	Value	Random For...	20	700.878	356.989
3	Value	Random For...	25	620.792	336.872
4	Value	Random For...	30	700.490	411.229
5	Value	Random For...	35	765.412	466.469
6	Value	Random For...	40	694.576	417.616
7	Value	Random For...	45	676.634	382.209
8	Value	Random For...	50	750.293	442.320
9	Value	Random For...	55	699.163	413.062
10	Value	Random For...	60	682.249	320.314
11	Value	Random For...	70	644.540	386.013
12	Value	Random For...	80	728.192	412.625
13	Value	Random For...	90	661.161	381.200
14	Value	Random For...	100	724.055	389.956
15	Value	Random For...	200	684.676	424.041
16	Value	Random For...	500	693.193	330.587
17	Value	Random For...	1000	691.856	341.706

## SVM DOT

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	833.946	526.121
2	Value	SVMdot	1	dot	805.962	534.772
3	Value	SVMdot	10	dot	751.616	361.120
4	Value	SVMdot	100	dot	478.822	290.145
5	Value	SVMdot	1000	dot	603.921	291.928
6	Value	SVMdot	10000	dot	489.202	211.050

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	833.946	526.121
2	Value	SVMdot	1	dot	805.962	534.772
3	Value	SVMdot	10	dot	751.616	361.120
4	Value	SVMdot	20	dot	748.115	337.433
5	Value	SVMdot	40	dot	693.934	242.438
6	Value	SVMdot	60	dot	510.598	263.726
7	Value	SVMdot	80	dot	474.129	284.241
8	Value	SVMdot	100	dot	497.099	291.277
9	Value	SVMdot	1000	dot	599.900	365.928
10	Value	SVMdot	10000	dot	496.283	227.343

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	833.946	526.121
2	Value	SVMpolinomial	1	polynomial	1	805.962	534.772
3	Value	SVMpolinomial	10	polynomial	1	751.616	361.120
4	Value	SVMpolinomial	100	polynomial	1	478.822	290.145
5	Value	SVMpolinomial	1000	polynomial	1	603.921	291.928
6	Value	SVMpolinomial	10000	polynomial	1	489.202	211.050
7	Value	SVMpolinomial	0	polynomial	2	830.458	564.939
8	Value	SVMpolinomial	1	polynomial	2	836.017	578.395
9	Value	SVMpolinomial	10	polynomial	2	1249.430	928.385
10	Value	SVMpolinomial	100	polynomial	2	2440.884	2334.080
11	Value	SVMpolinomial	1000	polynomial	2	2517.886	1218.687
12	Value	SVMpolinomial	10000	polynomial	2	3200.523	1834.343
13	Value	SVMpolinomial	0	polynomial	3	850.009	508.201
14	Value	SVMpolinomial	1	polynomial	3	1078.841	722.740
15	Value	SVMpolinomial	10	polynomial	3	3216.785	2347.282
16	Value	SVMpolinomial	100	polynomial	3	2560.352	1918.786
17	Value	SVMpolinomial	1000	polynomial	3	4802.268	5089.822
18	Value	SVMpolinomial	10000	polynomial	3	4733.222	5029.099
19	Value	SVMpolinomial	0	polynomial	4	822.534	482.598
20	Value	SVMpolinomial	1	polynomial	4	4020.348	2918.063
21	Value	SVMpolinomial	10	polynomial	4	2694.429	1814.614
22	Value	SVMpolinomial	100	polynomial	4	5041.490	4487.773
23	Value	SVMpolinomial	1000	polynomial	4	4611.496	3325.142
24	Value	SVMpolinomial	10000	polynomial	4	4813.045	3986.010
25	Value	SVMpolinomial	0	polynomial	5	861.448	603.133
26	Value	SVMpolinomial	1	polynomial	5	40570.021	31687.324
27	Value	SVMpolinomial	10	polynomial	5	30800.715	23899.510
28	Value	SVMpolinomial	100	polynomial	5	31575.498	24807.052
29	Value	SVMpolinomial	1000	polynomial	5	38565.524	43175.924
30	Value	SVMpolinomial	10000	polynomial	5	38725.005	42992.887

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	834.809	527.569
2	Value	SVMradial	1	radial	0.500	859.575	578.631
3	Value	SVMradial	10	radial	0.500	814.749	499.908
4	Value	SVMradial	100	radial	0.500	816.032	576.170
5	Value	SVMradial	1000	radial	0.500	823.032	489.313
6	Value	SVMradial	10000	radial	0.500	773.982	506.361
7	Value	SVMradial	0	radial	1	830.570	565.255
8	Value	SVMradial	1	radial	1	835.569	564.865
9	Value	SVMradial	10	radial	1	847.553	584.223
10	Value	SVMradial	100	radial	1	824.255	543.049
11	Value	SVMradial	1000	radial	1	844.073	551.836
12	Value	SVMradial	10000	radial	1	844.081	596.509
13	Value	SVMradial	0	radial	2	851.502	509.743
14	Value	SVMradial	1	radial	2	880.637	639.913
15	Value	SVMradial	10	radial	2	866.091	624.038
16	Value	SVMradial	100	radial	2	835.286	541.627
17	Value	SVMradial	1000	radial	2	876.519	516.786
18	Value	SVMradial	10000	radial	2	878.943	581.831
19	Value	SVMradial	0	radial	4	822.913	482.859
20	Value	SVMradial	1	radial	4	849.657	574.761
21	Value	SVMradial	10	radial	4	848.392	468.288
22	Value	SVMradial	100	radial	4	825.998	525.492
23	Value	SVMradial	1000	radial	4	861.036	563.863
24	Value	SVMradial	10000	radial	4	892.114	555.166
25	Value	SVMradial	0	radial	8	862.296	603.571
26	Value	SVMradial	1	radial	8	876.808	659.138
27	Value	SVMradial	10	radial	8	864.505	590.928
28	Value	SVMradial	100	radial	8	830.615	503.286
29	Value	SVMradial	1000	radial	8	909.234	619.564
30	Value	SVMradial	10000	radial	8	858.333	600.511

## Analizzato:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	834.809	527.569
2	Value	SVMradial	1	radial	0.500	859.575	578.631
3	Value	SVMradial	10	radial	0.500	814.749	499.908
4	Value	SVMradial	100	radial	0.500	816.032	576.170
5	Value	SVMradial	1000	radial	0.500	823.032	489.313
6	Value	SVMradial	2000	radial	0.500	773.982	506.361
7	Value	SVMradial	4000	radial	0.500	747.096	431.008
8	Value	SVMradial	6000	radial	0.500	784.960	494.497
9	Value	SVMradial	8000	radial	0.500	769.469	488.366
10	Value	SVMradial	10000	radial	0.500	767.600	471.620
11	Value	SVMradial	0	radial	1	858.550	585.268
12	Value	SVMradial	1	radial	1	879.542	647.032
13	Value	SVMradial	10	radial	1	851.177	509.295
14	Value	SVMradial	100	radial	1	831.109	590.913
15	Value	SVMradial	1000	radial	1	873.082	603.027
16	Value	SVMradial	2000	radial	1	813.497	477.837
17	Value	SVMradial	4000	radial	1	841.501	499.108
18	Value	SVMradial	6000	radial	1	840.665	554.855
19	Value	SVMradial	8000	radial	1	816.671	469.122
20	Value	SVMradial	10000	radial	1	829.721	528.901
21	Value	SVMradial	0	radial	2	848.388	468.286
22	Value	SVMradial	1	radial	2	865.733	561.354
23	Value	SVMradial	10	radial	2	860.537	569.745
24	Value	SVMradial	100	radial	2	834.935	512.948
25	Value	SVMradial	1000	radial	2	872.969	592.663
26	Value	SVMradial	2000	radial	2	888.337	646.487
27	Value	SVMradial	4000	radial	2	876.100	589.158
28	Value	SVMradial	6000	radial	2	875.699	543.773
29	Value	SVMradial	8000	radial	2	906.256	623.182
30	Value	SVMradial	10000	radial	2	855.555	595.076
31	Value	SVMradial	0	radial	4	859.187	639.977
32	Value	SVMradial	1	radial	4	818.589	498.178
33	Value	SVMradial	10	radial	4	859.529	618.791
34	Value	SVMradial	100	radial	4	827.257	583.820
35	Value	SVMradial	1000	radial	4	885.229	568.461
36	Value	SVMradial	2000	radial	4	883.211	472.457
37	Value	SVMradial	4000	radial	4	862.078	555.528
38	Value	SVMradial	6000	radial	4	844.427	545.216
39	Value	SVMradial	8000	radial	4	845.798	545.067
40	Value	SVMradial	10000	radial	4	874.000	648.130
41	Value	SVMradial	0	radial	8	843.565	555.745
42	Value	SVMradial	1	radial	8	853.729	551.082
43	Value	SVMradial	10	radial	8	837.523	597.440
44	Value	SVMradial	100	radial	8	823.925	560.105
45	Value	SVMradial	1000	radial	8	857.417	588.725
46	Value	SVMradial	2000	radial	8	840.852	491.866
47	Value	SVMradial	4000	radial	8	857.773	590.481
48	Value	SVMradial	6000	radial	8	876.524	548.944
49	Value	SVMradial	8000	radial	8	883.321	581.205
50	Value	SVMradial	10000	radial	8	862.892	560.527

### Quesito 3 – ISO5 | Parametro da predire: Zolfo

DECISION TREE:

Row No.	id	algoritmo	criterion	rmse	st_deviation
1	Value	Decision Tree	least_square	0.083	0.068

RANDOM FOREST:

Row No.	id	algoritmo	numbers_o...	rmse	st_deviation
1	Value	Random For...	10	0.074	0.046
2	Value	Random For...	20	0.068	0.036
3	Value	Random For...	50	0.064	0.044
4	Value	Random For...	100	0.063	0.045
5	Value	Random For...	200	0.067	0.035
6	Value	Random For...	500	0.067	0.033
7	Value	Random For...	1000	0.068	0.046

SVM DOT:

Row No.	id	algoritmo	C	kernel_type	rmse	st_deviation
1	Value	SVMdot	0	dot	0.068	0.040
2	Value	SVMdot	1	dot	0.060	0.029
3	Value	SVMdot	10	dot	0.031	0.014
4	Value	SVMdot	100	dot	0.032	0.018
5	Value	SVMdot	1000	dot	0.030	0.020
6	Value	SVMdot	10000	dot	0.041	0.021

## SVM POLYNOMIAL:

Row No.	id	algoritmo	C	kernel_type	kernel_deg...	rmse	st_deviation
1	Value	SVMpolinomial	0	polynomial	1	0.068	0.040
2	Value	SVMpolinomial	1	polynomial	1	0.060	0.029
3	Value	SVMpolinomial	10	polynomial	1	0.031	0.014
4	Value	SVMpolinomial	100	polynomial	1	0.032	0.018
5	Value	SVMpolinomial	1000	polynomial	1	0.030	0.020
6	Value	SVMpolinomial	10000	polynomial	1	0.041	0.021
7	Value	SVMpolinomial	0	polynomial	2	0.238	0.223
8	Value	SVMpolinomial	1	polynomial	2	0.212	0.153
9	Value	SVMpolinomial	10	polynomial	2	0.276	0.267
10	Value	SVMpolinomial	100	polynomial	2	0.280	0.263
11	Value	SVMpolinomial	1000	polynomial	2	0.271	0.184
12	Value	SVMpolinomial	10000	polynomial	2	0.123	0.096
13	Value	SVMpolinomial	0	polynomial	3	0.229	0.229
14	Value	SVMpolinomial	1	polynomial	3	0.734	0.708
15	Value	SVMpolinomial	10	polynomial	3	0.680	0.478
16	Value	SVMpolinomial	100	polynomial	3	0.326	0.283
17	Value	SVMpolinomial	1000	polynomial	3	0.711	0.715
18	Value	SVMpolinomial	10000	polynomial	3	0.669	0.697
19	Value	SVMpolinomial	0	polynomial	4	0.360	0.330
20	Value	SVMpolinomial	1	polynomial	4	1.628	1.274
21	Value	SVMpolinomial	10	polynomial	4	1.725	1.298
22	Value	SVMpolinomial	100	polynomial	4	2.398	2.585
23	Value	SVMpolinomial	1000	polynomial	4	1.818	1.354
24	Value	SVMpolinomial	10000	polynomial	4	2.363	2.530
25	Value	SVMpolinomial	0	polynomial	5	0.293	0.209
26	Value	SVMpolinomial	1	polynomial	5	9.761	7.582
27	Value	SVMpolinomial	10	polynomial	5	4.848	3.838
28	Value	SVMpolinomial	100	polynomial	5	4.265	3.417
29	Value	SVMpolinomial	1000	polynomial	5	8.520	9.414
30	Value	SVMpolinomial	10000	polynomial	5	8.604	9.458

## SVM RADIAL:

Row No.	id	algoritmo	C	kernel_type	Gamma	rmse	st_deviation
1	Value	SVMradial	0	radial	0.500	0.062	0.045
2	Value	SVMradial	1	radial	0.500	0.062	0.036
3	Value	SVMradial	10	radial	0.500	0.062	0.047
4	Value	SVMradial	100	radial	0.500	0.062	0.048
5	Value	SVMradial	1000	radial	0.500	0.063	0.037
6	Value	SVMradial	10000	radial	0.500	0.062	0.037
7	Value	SVMradial	0	radial	1	0.070	0.053
8	Value	SVMradial	1	radial	1	0.069	0.053
9	Value	SVMradial	10	radial	1	0.069	0.053
10	Value	SVMradial	100	radial	1	0.069	0.055
11	Value	SVMradial	1000	radial	1	0.070	0.036
12	Value	SVMradial	10000	radial	1	0.069	0.051
13	Value	SVMradial	0	radial	2	0.071	0.040
14	Value	SVMradial	1	radial	2	0.073	0.045
15	Value	SVMradial	10	radial	2	0.069	0.043
16	Value	SVMradial	100	radial	2	0.071	0.054
17	Value	SVMradial	1000	radial	2	0.069	0.044
18	Value	SVMradial	10000	radial	2	0.071	0.053
19	Value	SVMradial	0	radial	4	0.071	0.056
20	Value	SVMradial	1	radial	4	0.071	0.055
21	Value	SVMradial	10	radial	4	0.069	0.044
22	Value	SVMradial	100	radial	4	0.071	0.054
23	Value	SVMradial	1000	radial	4	0.071	0.056
24	Value	SVMradial	10000	radial	4	0.071	0.041
25	Value	SVMradial	0	radial	8	0.070	0.055
26	Value	SVMradial	1	radial	8	0.071	0.053
27	Value	SVMradial	10	radial	8	0.071	0.042
28	Value	SVMradial	100	radial	8	0.070	0.044
29	Value	SVMradial	1000	radial	8	0.071	0.056
30	Value	SVMradial	10000	radial	8	0.071	0.043

## **Risultati Migliori:**

In questa sezione elenchiamo i migliori algoritmi che generano il modello di predizione che riporta i migliori risultati in termini di **RMSE** e **Standard Deviation** per ogni Quesito, con relativa suddivisione per ISO e feature da predire.

**"Quesito 1"** - dato il valore della feature ceneri predire per ogni materiale i valori di PCS, PCI, Azoto, Cloro e Zolfo [quindi un modello di regressione per ogni materiale e per ognuna delle 5 feature indicate]

**ISO1** – PCI,PCS -> SVMdot | Azoto -> DT+SVMradial | Cloro -> DT+RF |Zolfo -> RF+SVMradial

**ISO2** – PCI,PCS->SVMdot| Azoto, Cloro, Zolfo -> SVMdot

**ISO3** – PCS -> SVMPolynomial | PCI, Azoto, Zolfo -> RF | Cloro-> RF

**ISO5** – PCS,PCI- >SVMdot | Cloro,Zolfo ->RF |Azoto -> RF

**"Quesito 2"** - dati i valori delle feature ceneri, carbonio, idrogeno e azoto, per ogni materiale predire i valori di PCS,PCI, cloro e zolfo [anche in questo caso diversi modelli di regressione]

**ISO1** – PCS, PCI->SVMdot| Cloro,Zolfo->RF

**ISO2** – PCS,PCI->SVMdot | Cloro->RF | Zolfo->DT

**ISO3** – PCS->RF | PCI->SVMdot | Cloro,Zolfo->RF

**ISO5** - PCS,PCI->SVMdot | Cloro,Zolfo->RF

**"Quesito 3"** - date tutte le feature relative a misure, per ogni materiale predire i valori di PCS,PCI, cloro e zolfo

**ISO1** - PCS,PCI->SVMdot | Cloro,Zolfo->RF

**ISO2** – PCS,PCI->SVMdot | Cloro,Zolfo->RF

**ISO3** - (dati non sufficienti per effettuare l'analisi)

**ISO5** - PCS,PCI->SVMdot | Cloro,Zolfo->SVMdot