

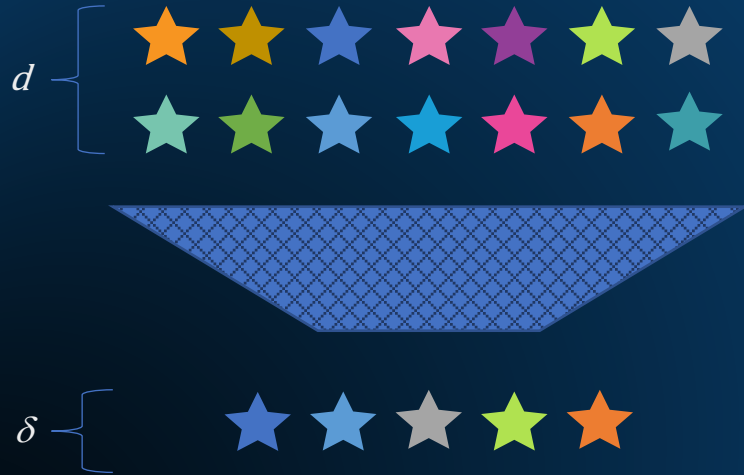
A hand is shown in the foreground, pointing towards a complex, futuristic digital interface. The interface features a large circular gauge with multiple concentric rings, gears, and various data visualizations like bar charts and line graphs. The overall color scheme is dark blue and teal, giving it a high-tech, cybernetic feel.

Feature Selection

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FEATURE SELECTION

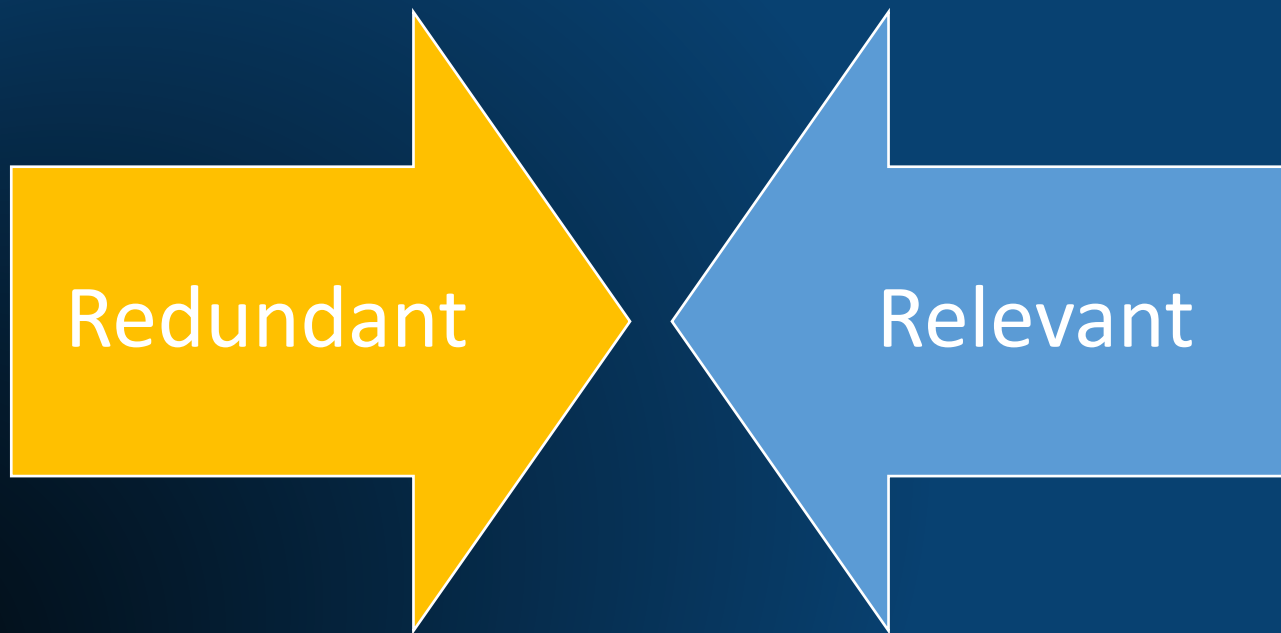


v_1, v_2, \dots, v_d



$v_{i1}, v_{i2}, \dots, v_{i\delta}$
with $\delta \leq d$

TWO NOTIONS



SUPERVISED X UNSUPERVISED













FEATURE SELECTION






TERMINATION CONDITION





									
0.32	0.82	0.54	0.75	0.93	0.78	0.98	0.37	0.86	0.21





k=3

1 st		0.98
2 nd		0.93
3 rd		0.86

80th percentile

1 st		0.98
2 nd		0.93

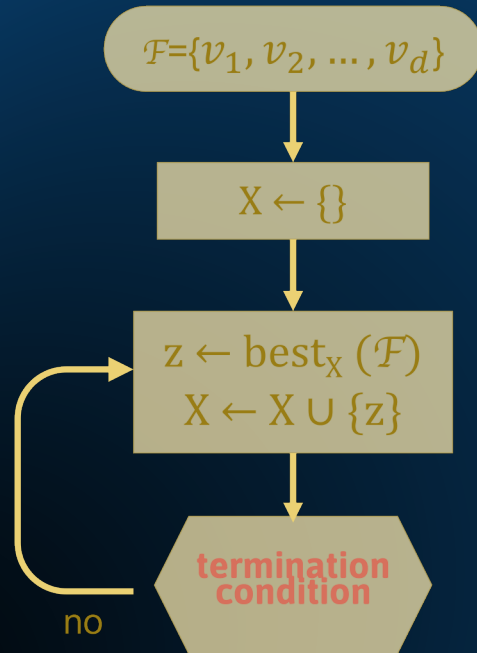
score > 0.8

1 st		0.98
2 nd		0.93
3 rd		0.86
4 th		0.82

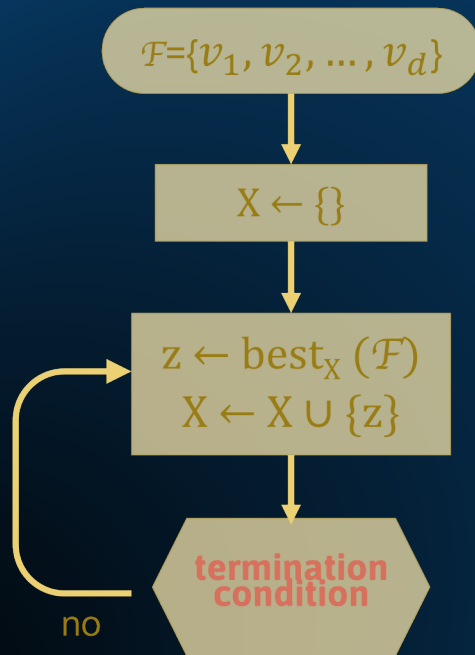
SEARCH STRATEGIES



SEQUENTIAL FORWARD SELECTION



SEQUENTIAL FORWARD SELECTION



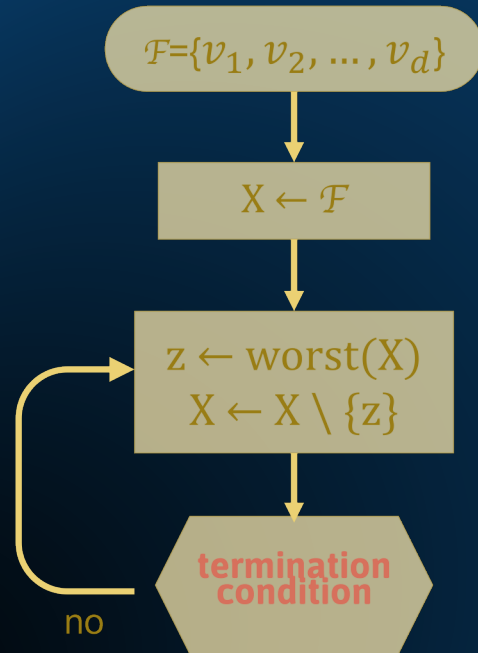
$k=3$
 $X \leftarrow \{\}$

$X \leftarrow \{\text{blue star}\}$

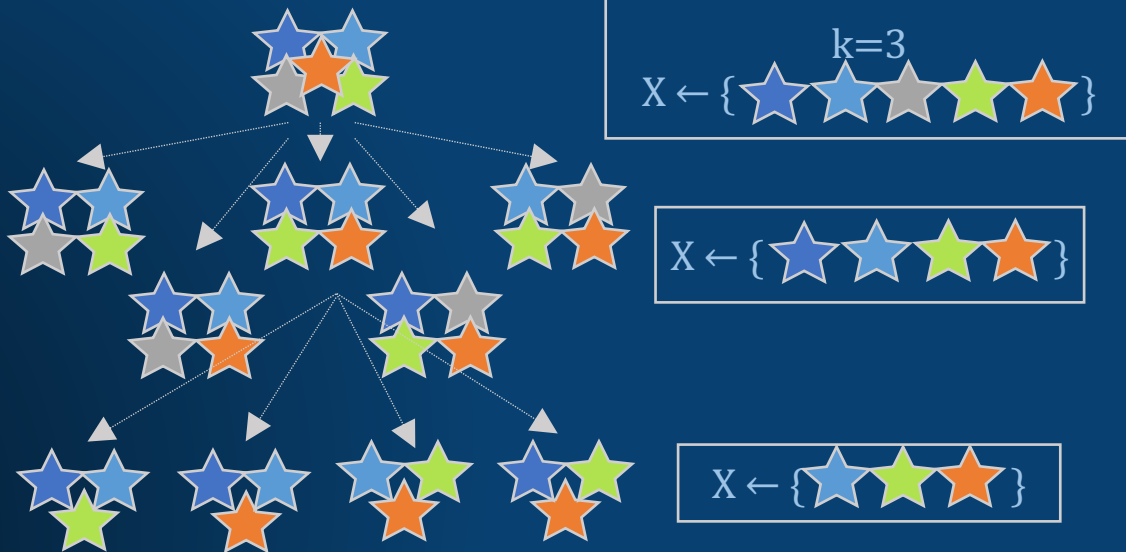
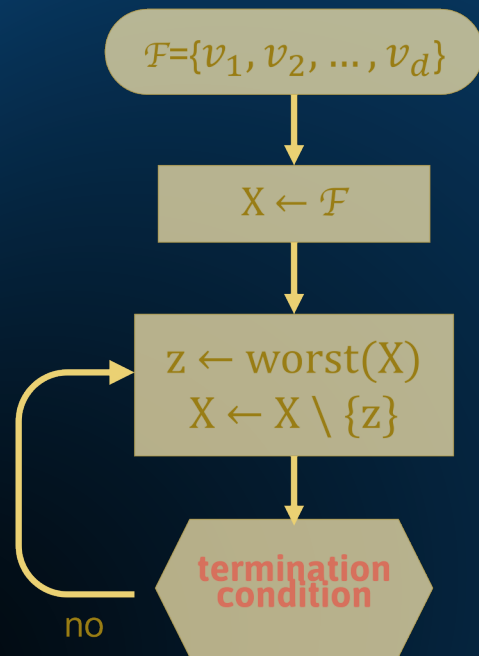
$X \leftarrow \{\text{blue star}, \text{green star}\}$

$X \leftarrow \{\text{blue star}, \text{green star}, \text{orange star}\}$

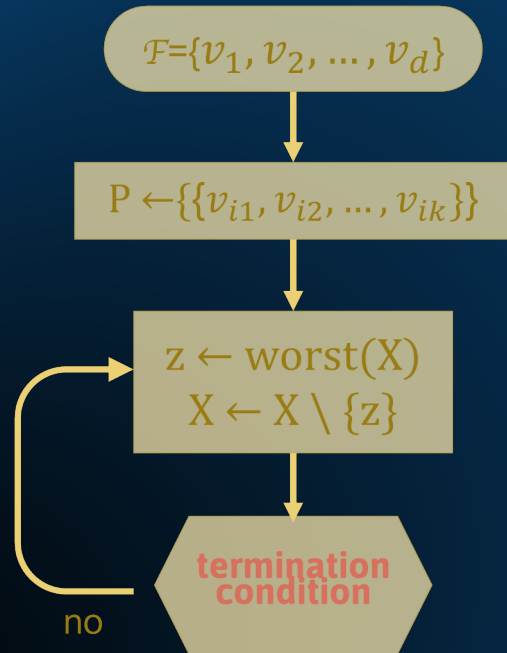
SEQUENTIAL BACKWARD SELECTION



SEQUENTIAL BACKWARD SELECTION

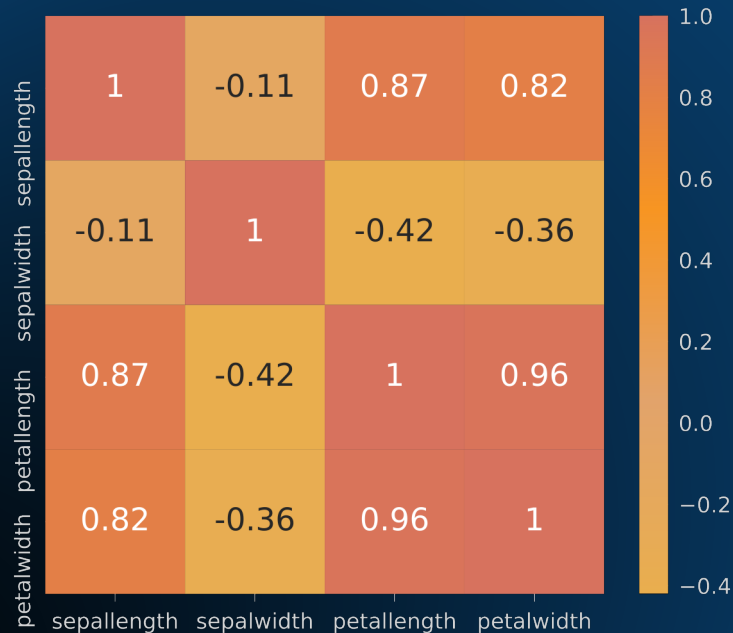


GENETIC ALGORITHMS SEARCH

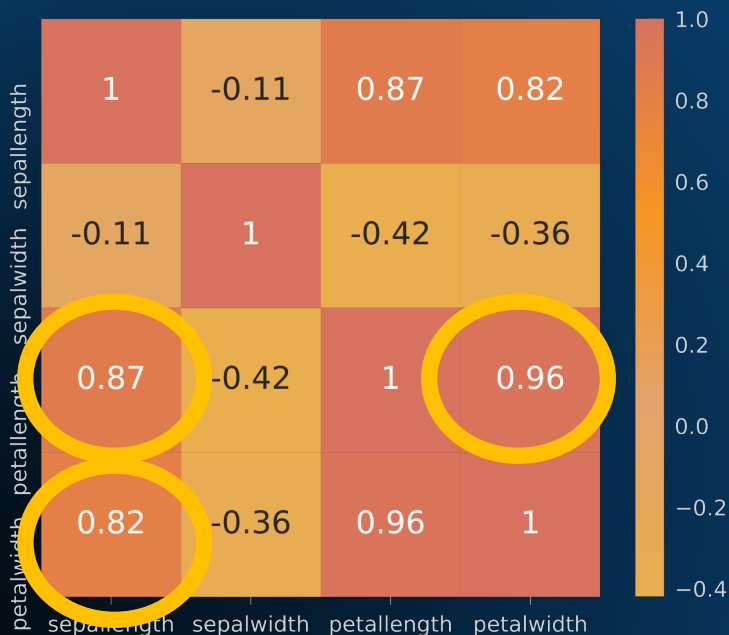


Unsupervised Selection

UNSUPERVISED SELECTION



UNSUPERVISED SELECTION

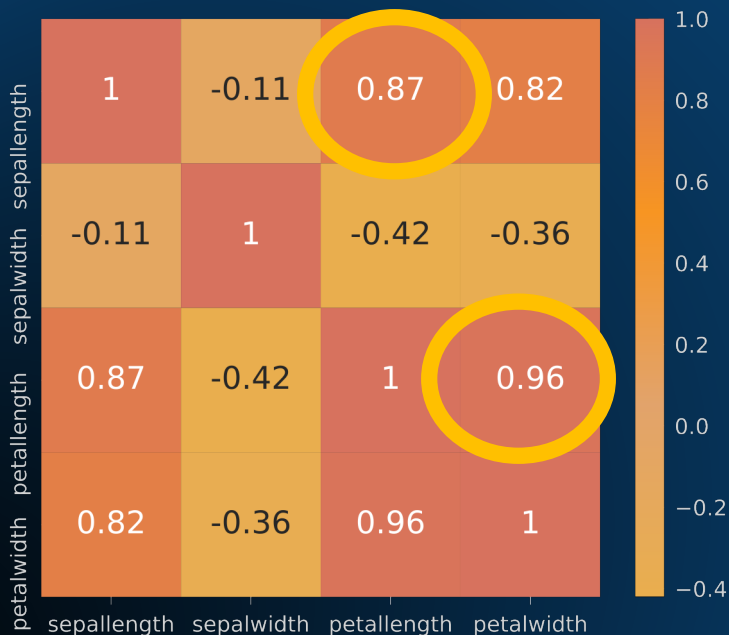


correlation > 0.80

(petalwidth, petallength)
(sepalwidth, petalwidth)
(sepalwidth, petallength)

$X \leftarrow \{\text{sepalwidth}, \text{petalwidth}\}$

UNSUPERVISED SELECTION

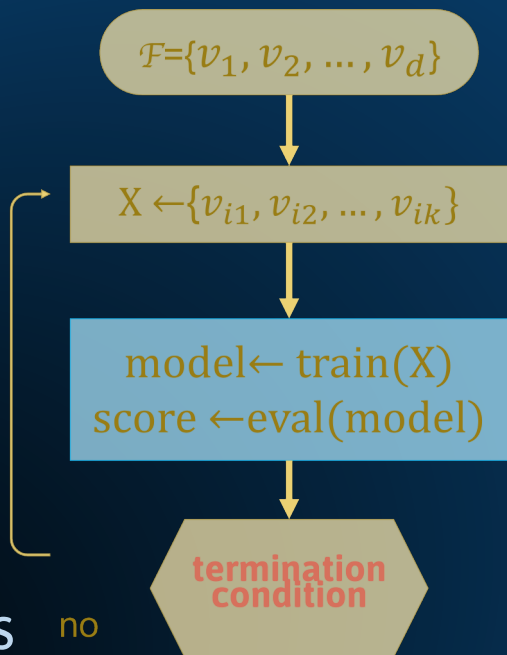


$k=2$

(petallength, petalwidth)
(sepalwidth, petallength)

$X \leftarrow \{\text{sepalwidth}, \text{petallength}\}$

SUPERVISED SELECTION



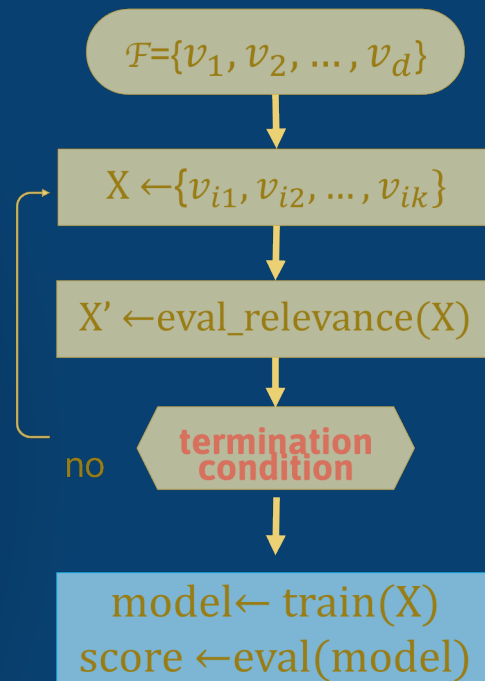
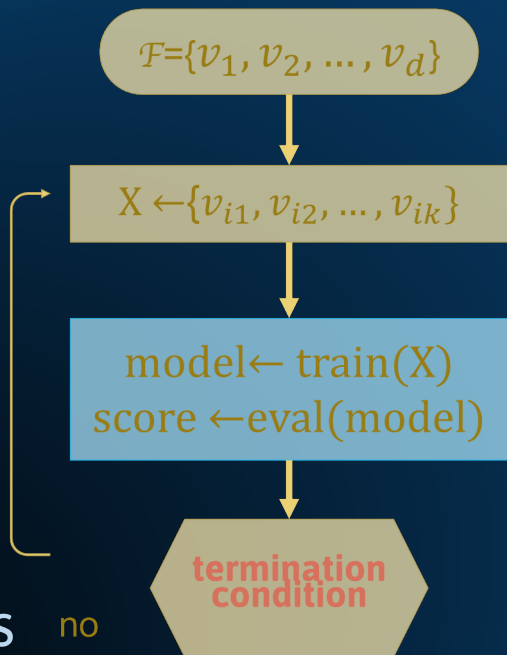
Wrappers no

SUPERVISED SELECTION



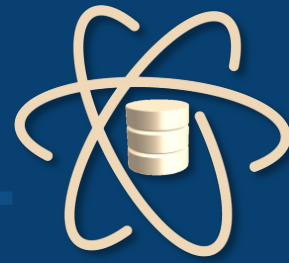
Wrappers

no



Filters

RELEVANCE MEASURES



		Target	
		Numeric	Symbolic
Variable	Numeric	Correlation	Correlation
	Symbolic	Correlation	χ^2 / Mutual Information

	Linear	Non-linear
Symbolic	ANOVA	Kendall's
Numeric	Pearson	Spearman



*Thank
you!*

