

The background of the slide is a blurred image of a financial market data screen. It features various stock indices and their values in different colors (green for up, red for down). Visible text includes 'OMXC25', 'OMXC25 INDEX', '1172.94', '0.81%', '10916.69', '10847.17', 'Buy', 'OMXRG1', 'OMX RIGA GI', '984.13', '0.87%', '57.3180', '6025.9680', '5993.7030', 'Buy', 'INDEX', 'OMX18', 'OMX ICELAND 8', '599.40', '28289.06', '27956.04', '1632.51', '0.30%', '6230.9', '1172.94', '0.81%', and 'Sell'.

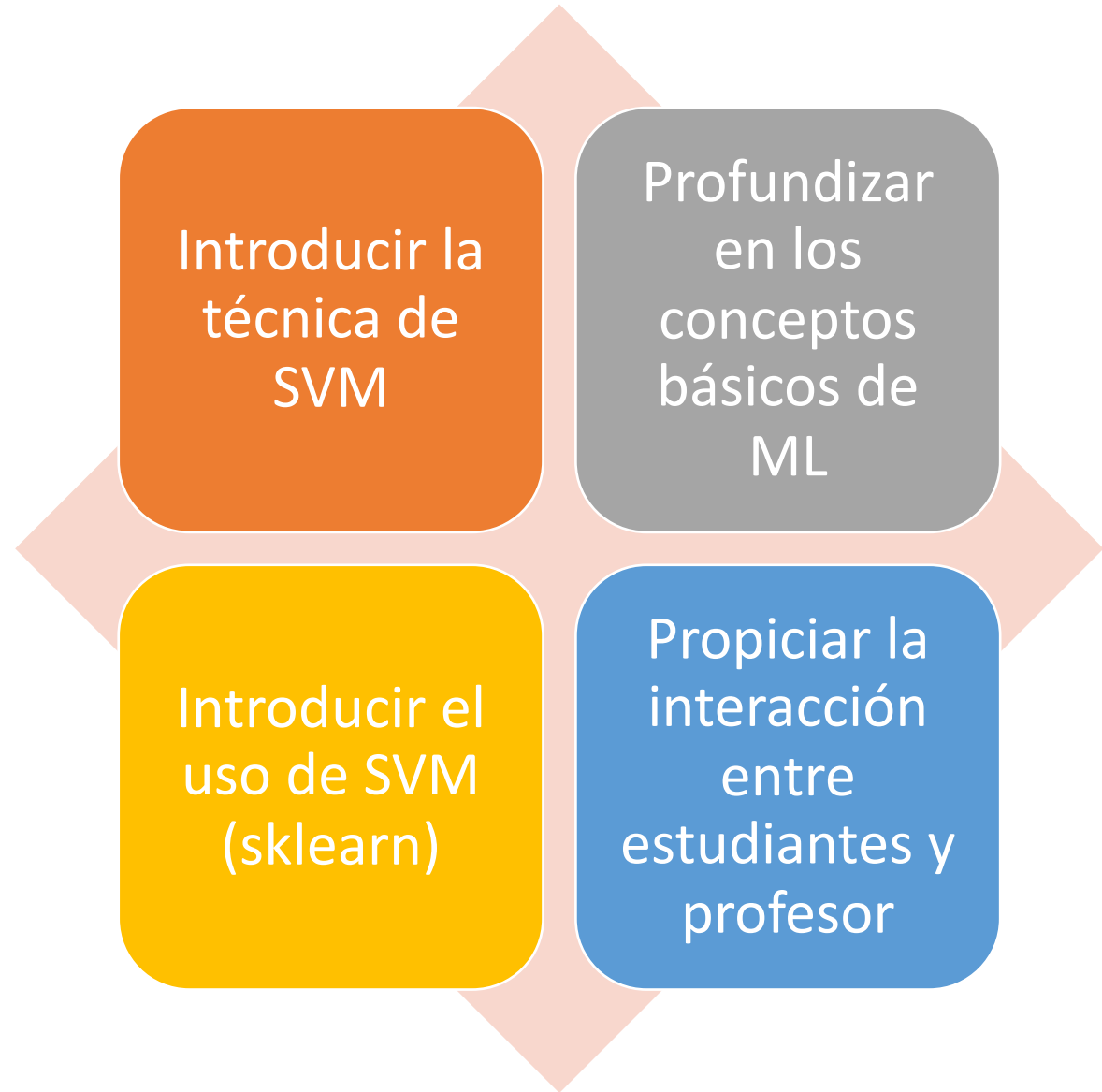
Inteligencia Artificial LFIS419

Clase 5: Support Vector Machine

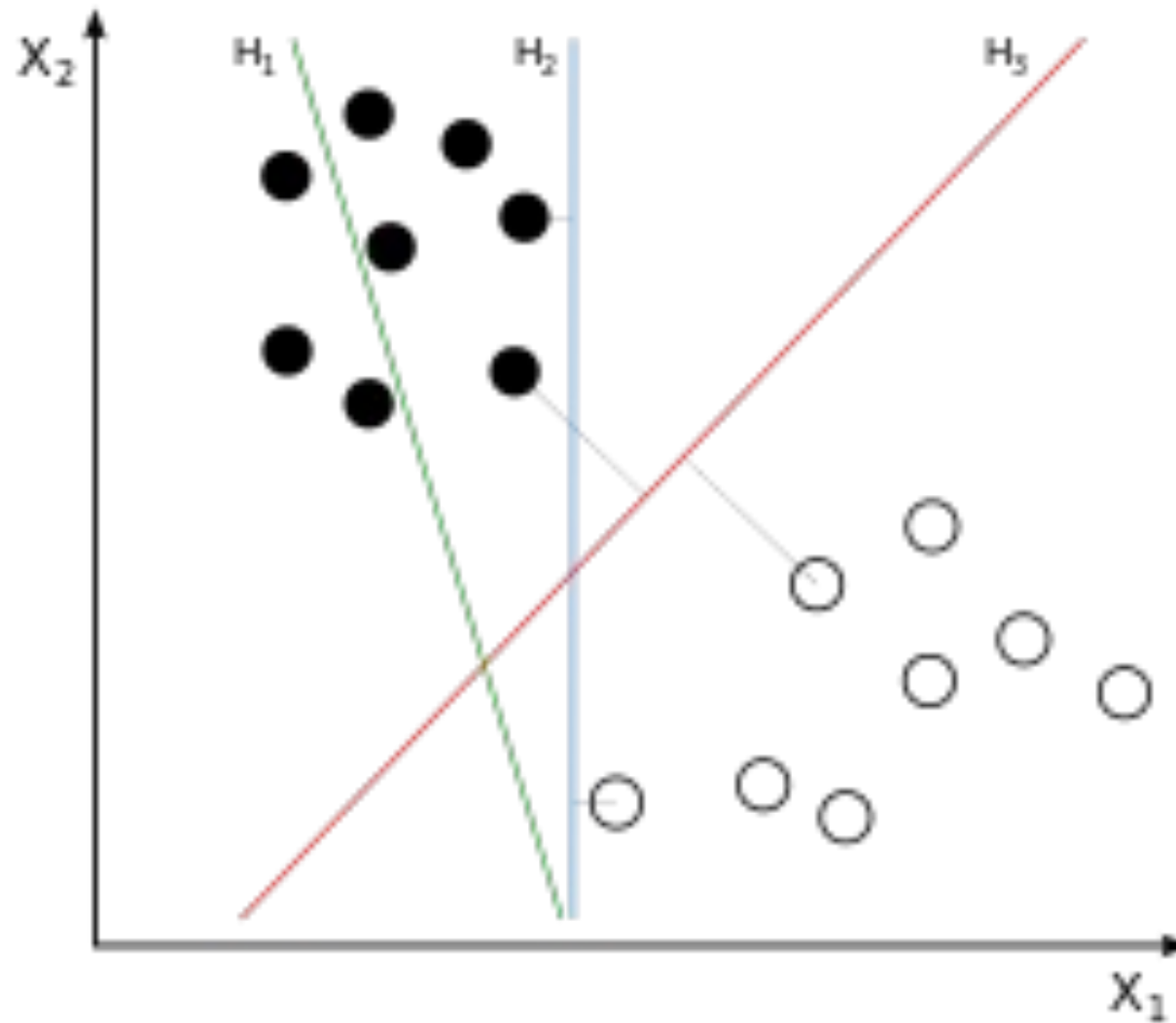
Profesor: Jorge Arevalo (jorge.arevalo@uv.cl jab@meteo.uv.cl)

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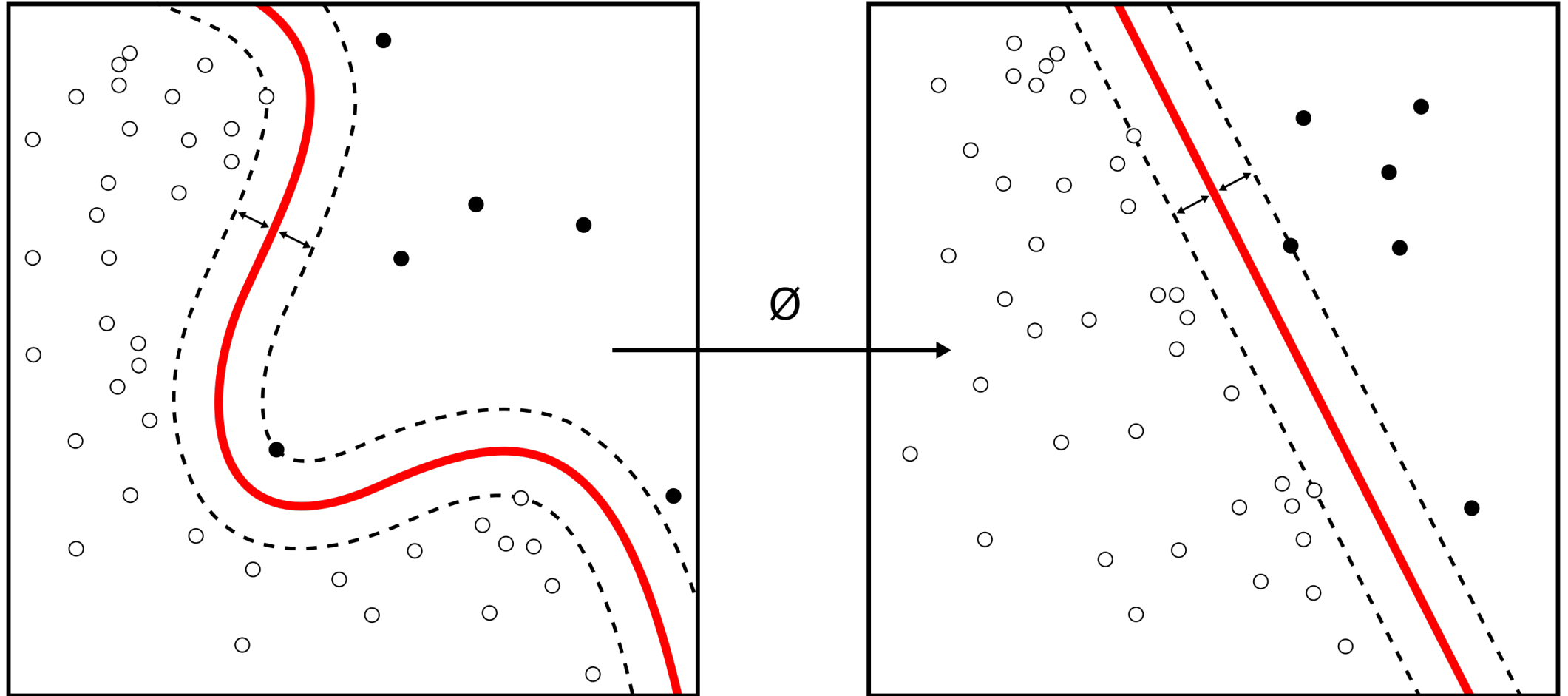
Objetivos de la sesión



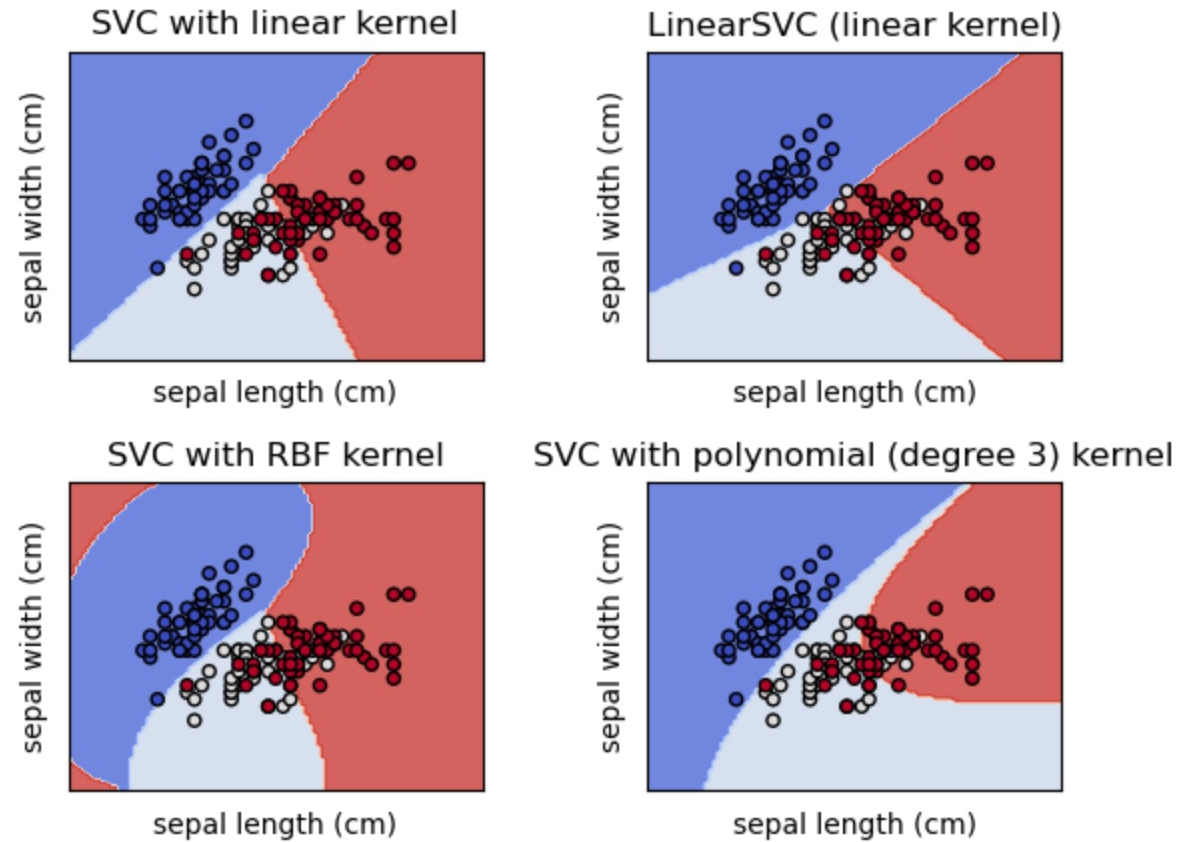
SVM



Kernel trick



Kernels



Detalles Importantes

- Margen
- Tipos de Kernel

The *kernel function* can be any of the following:

- linear: $\langle x, x' \rangle$.
- polynomial: $(\gamma \langle x, x' \rangle + r)^d$, where d is specified by parameter `degree`, r by `coef0`.
- rbf: $\exp(-\gamma \|x - x'\|^2)$, where γ is specified by parameter `gamma`, must be greater than 0.
- sigmoid $\tanh(\gamma \langle x, x' \rangle + r)$, where r is specified by `coef0`.

- Normalization o estandarización

Código en sklearn

```
>>> from sklearn import svm
>>> X = [[0, 0], [1, 1]]
>>> y = [0, 1]
>>> clf = svm.SVC()
>>> clf.fit(X, y)
SVC()
```