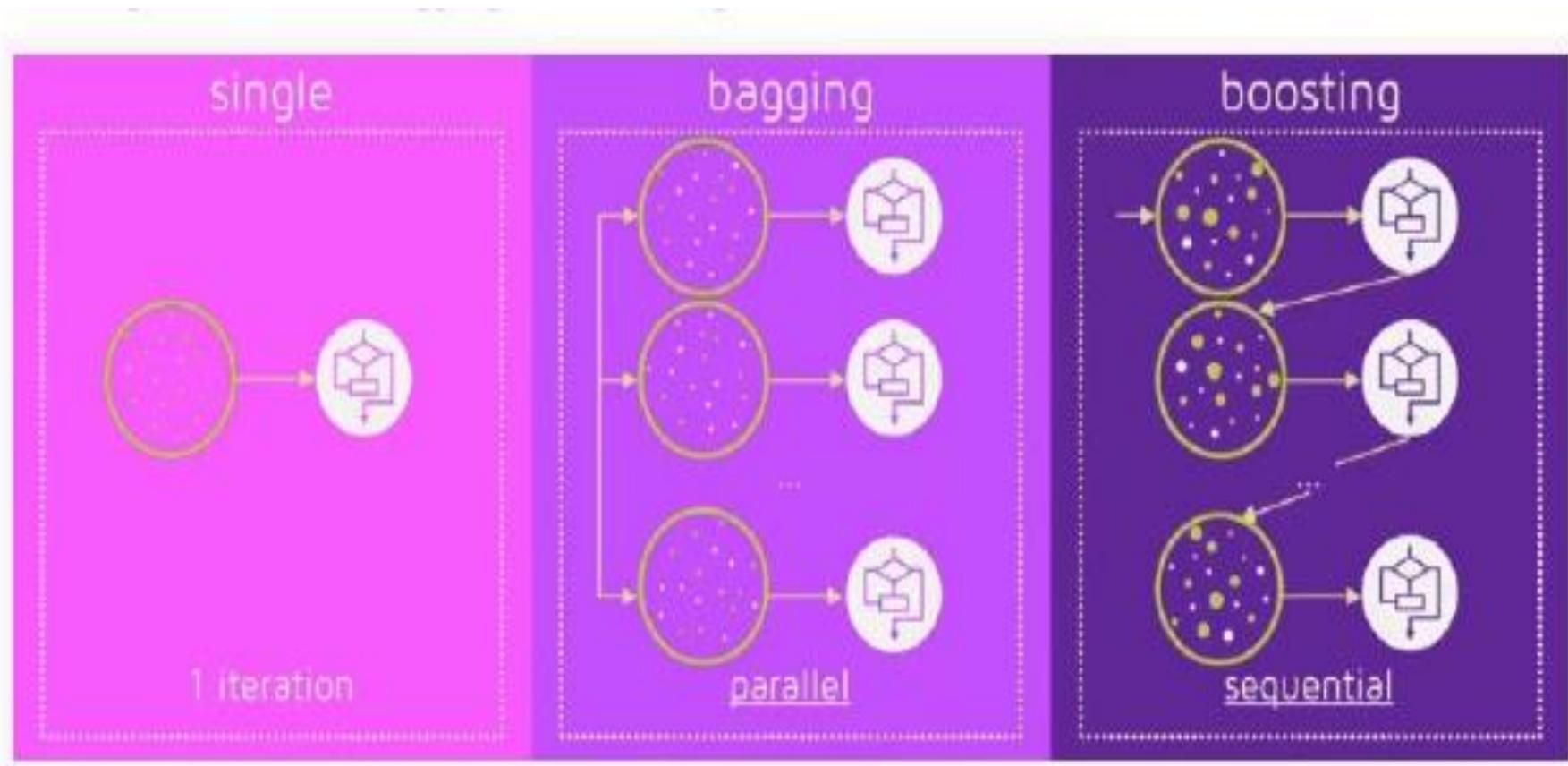


Adaboost

Adaboost

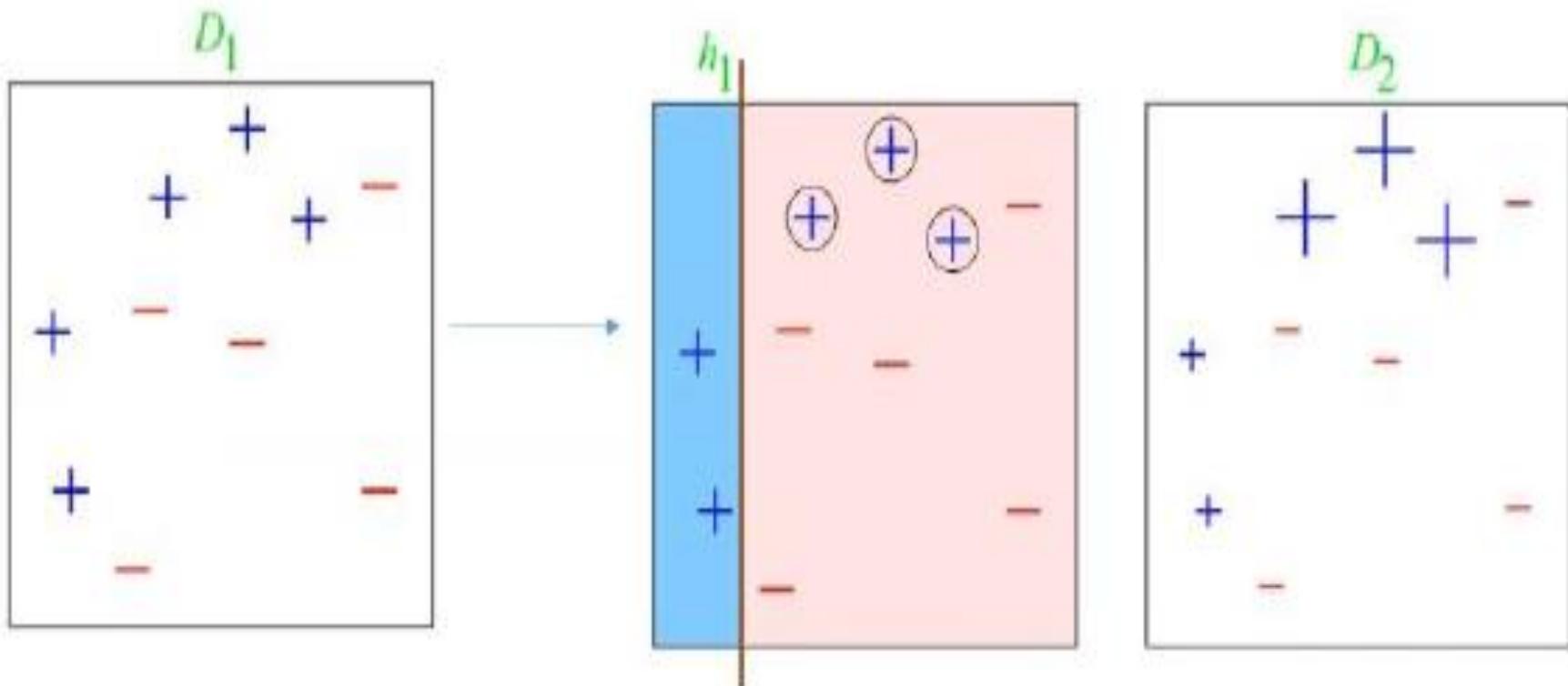
- Single model vs Bagging vs Boosting



Adaboost

□ Example 1

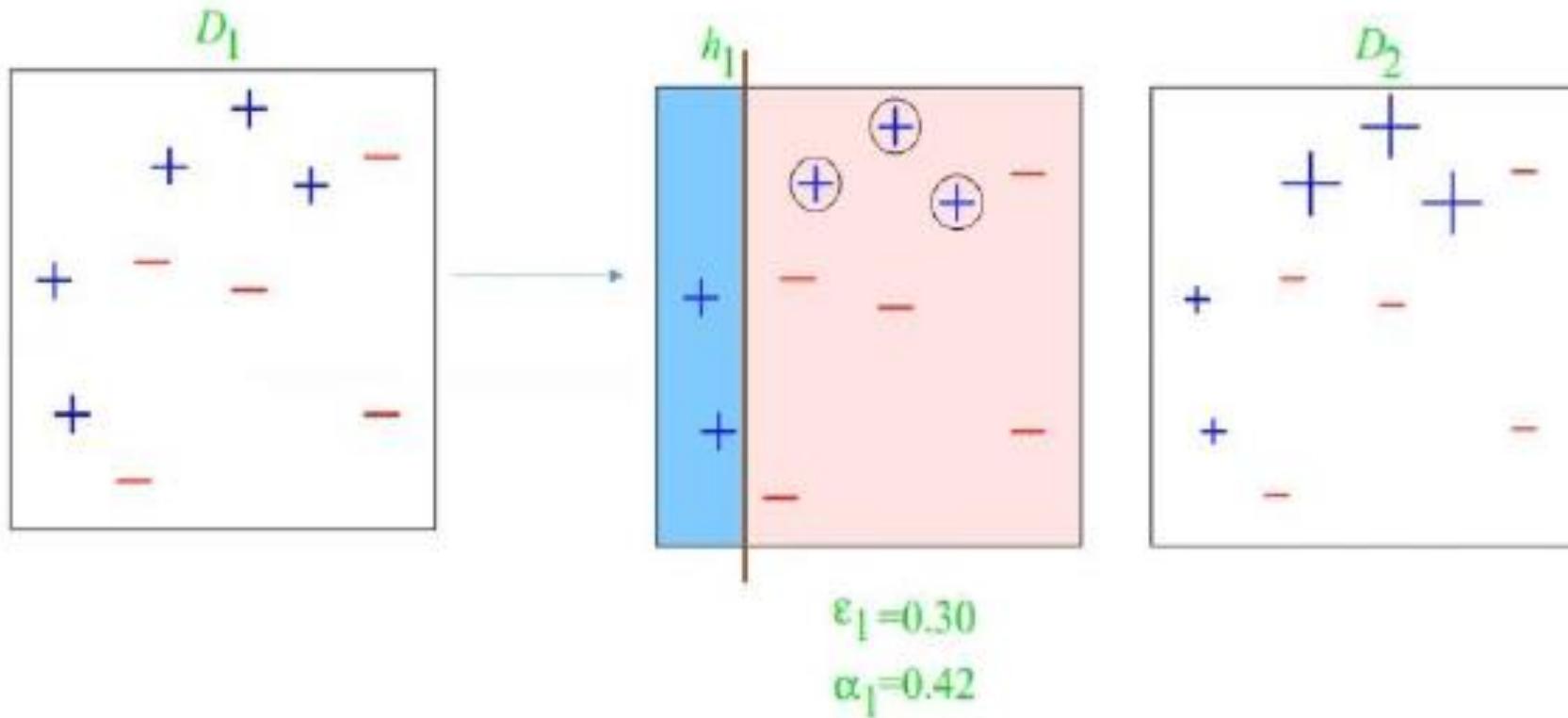
✓ Round 1



Adaboost

□ Example 1

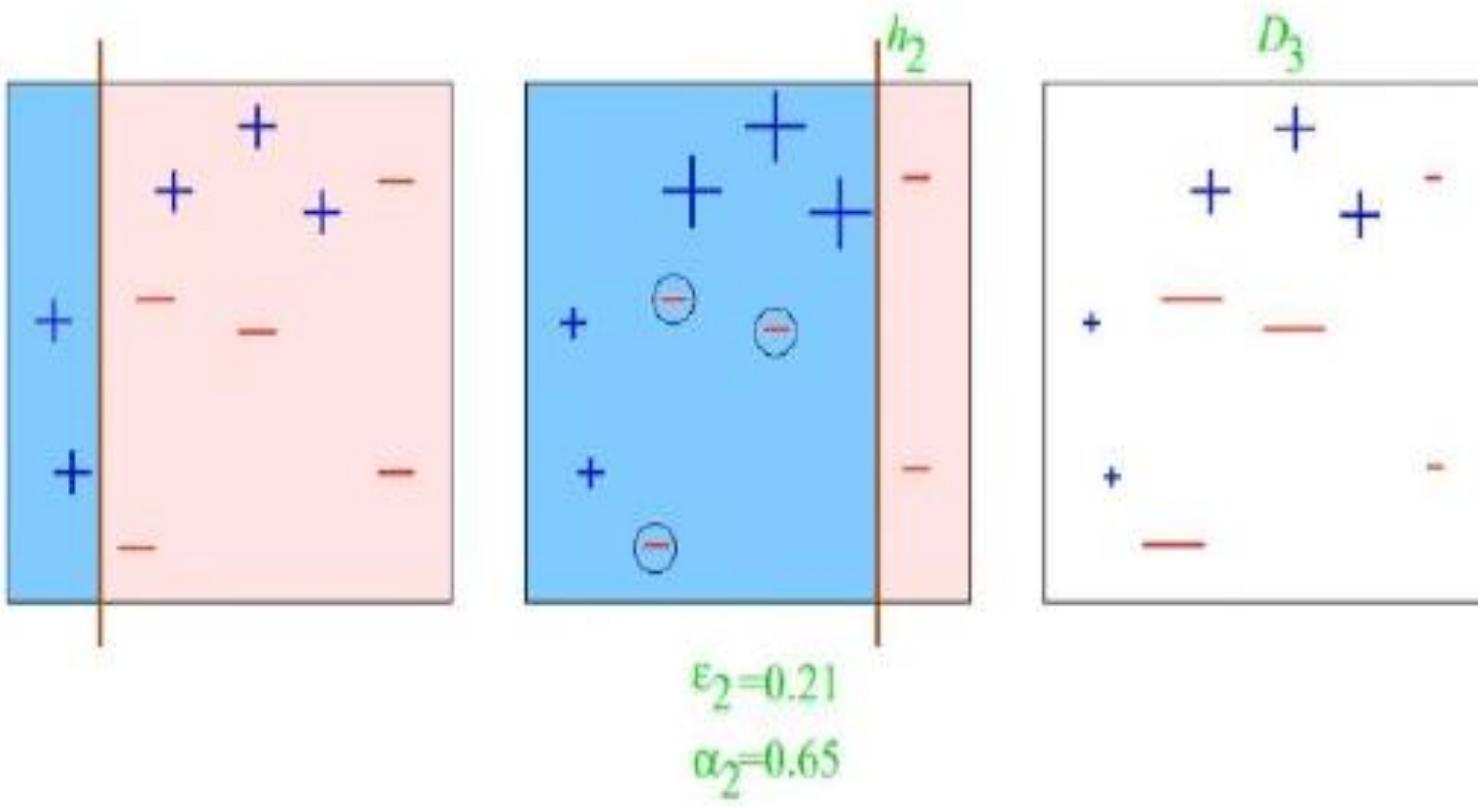
✓ Round 1



Adaboost

□ Example 1

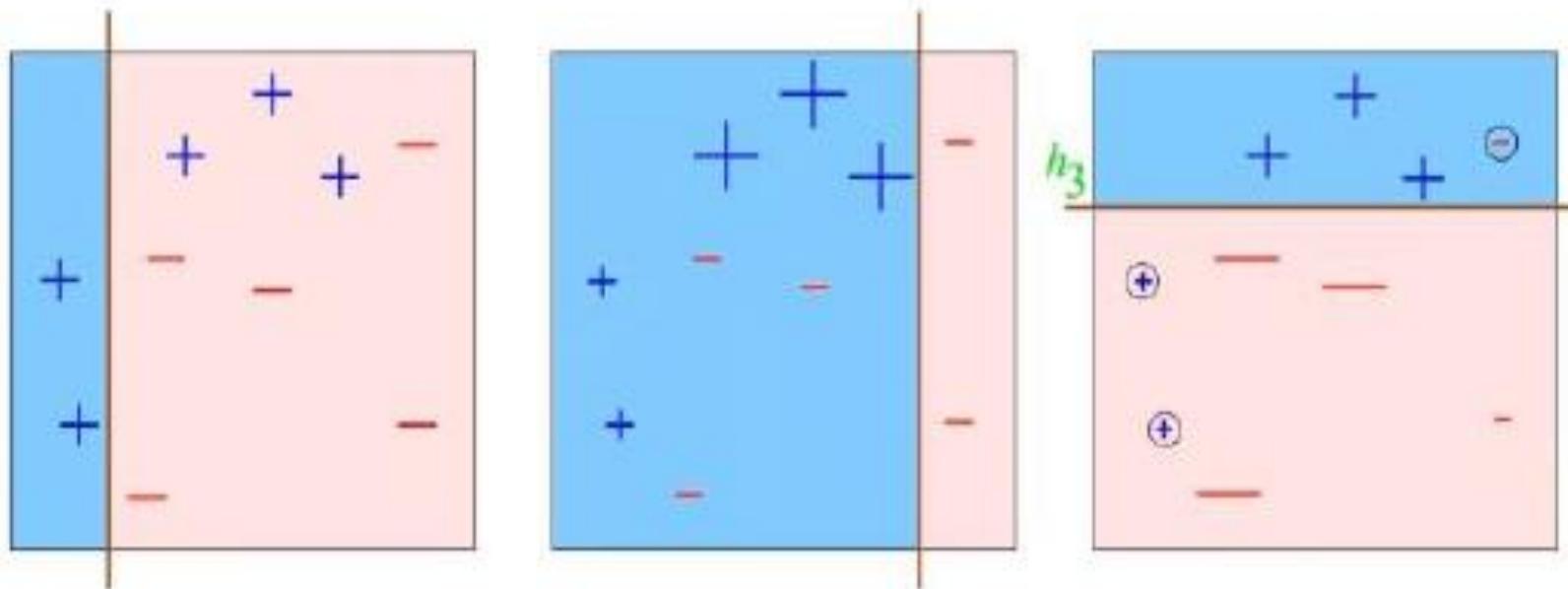
✓ Round 2



Adaboost

□ Example 1

✓ Round 3



$$\epsilon_3 = 0.14$$

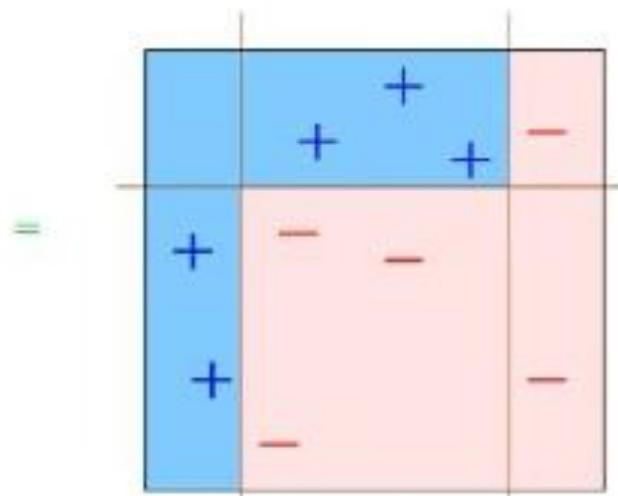
$$\alpha_3 = 0.92$$

Adaboost

□ Example 1

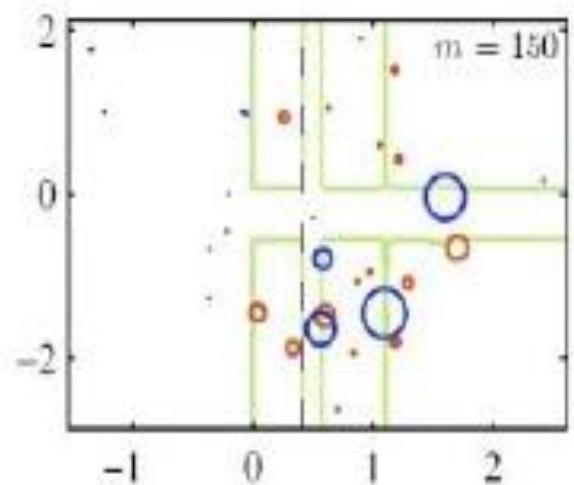
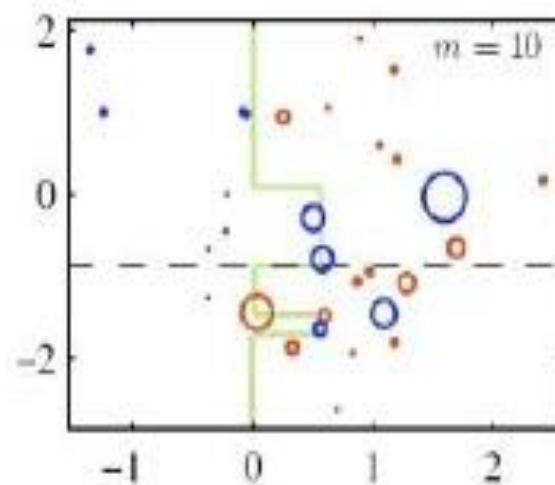
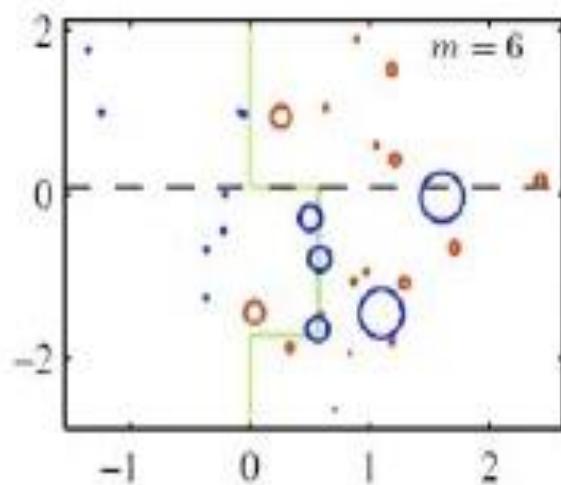
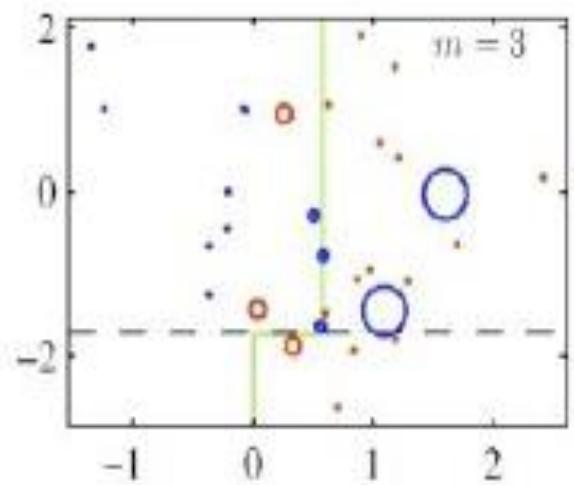
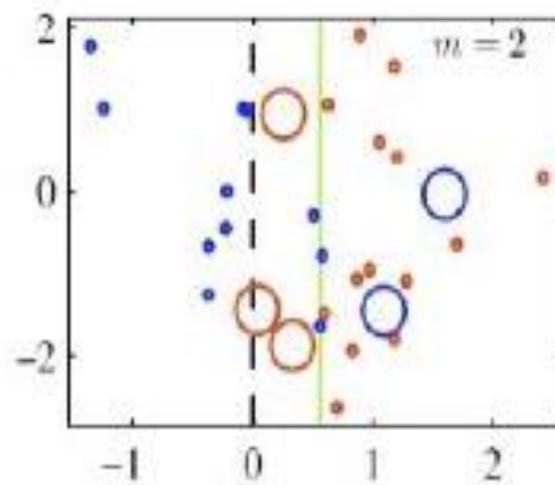
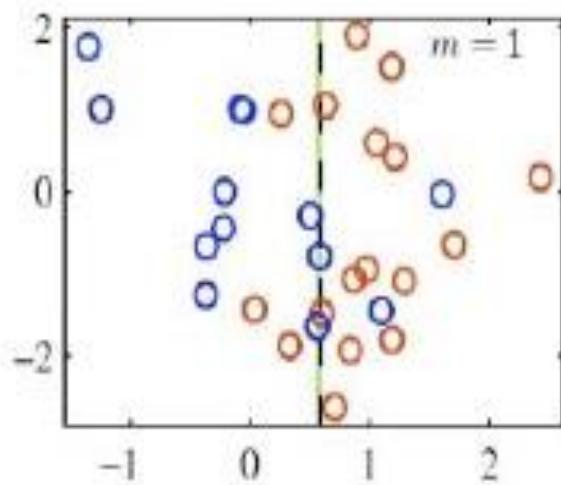
✓ Final classifier

$$H_{\text{final}} = \text{sign} \left(0.42 \begin{array}{|c|c|} \hline \text{blue} & \text{pink} \\ \hline \end{array} + 0.65 \begin{array}{|c|c|} \hline \text{blue} & \text{pink} \\ \hline \end{array} + 0.92 \begin{array}{|c|c|} \hline \text{blue} & \text{pink} \\ \hline \end{array} \right)$$



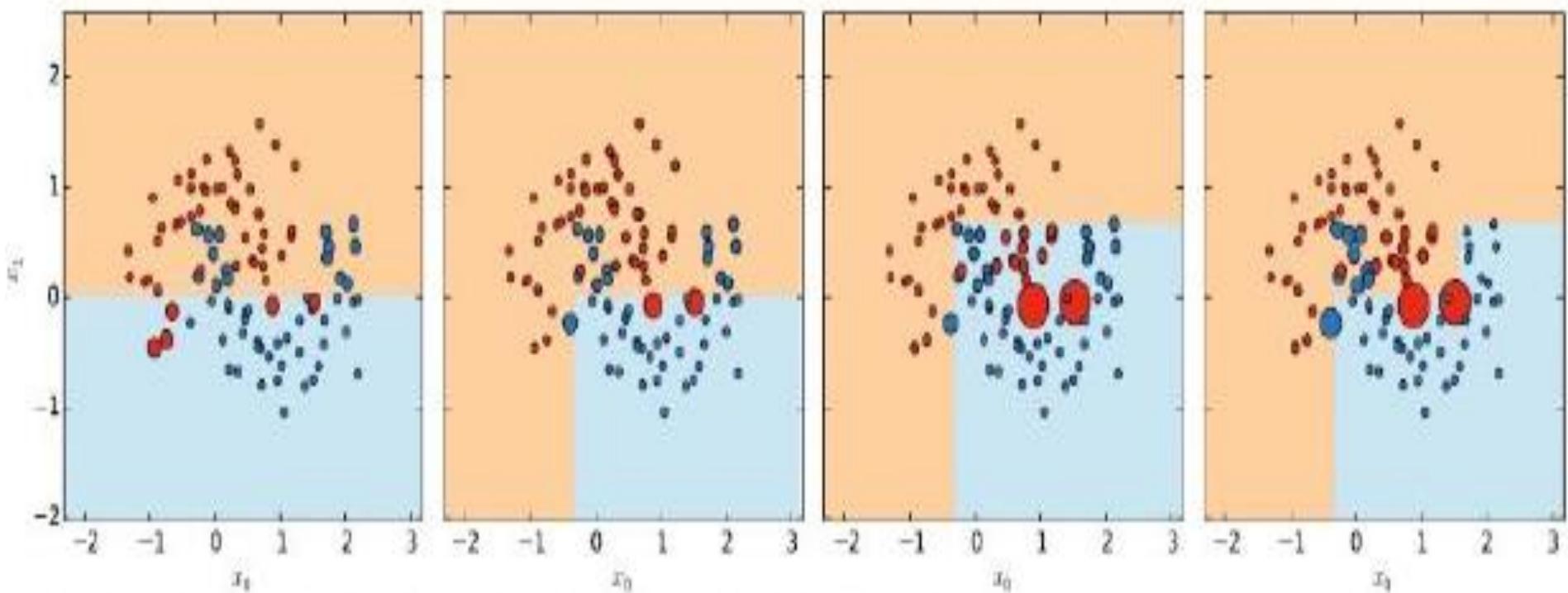
Adaboost

□ Example 2



Adaboost

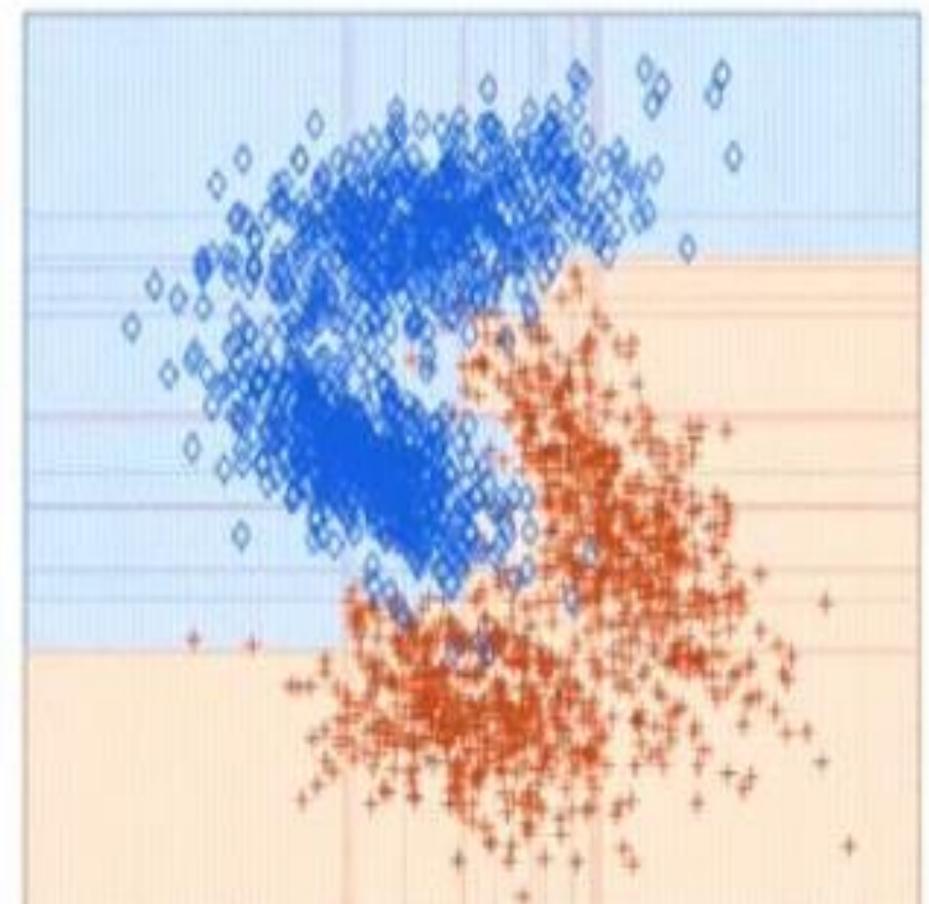
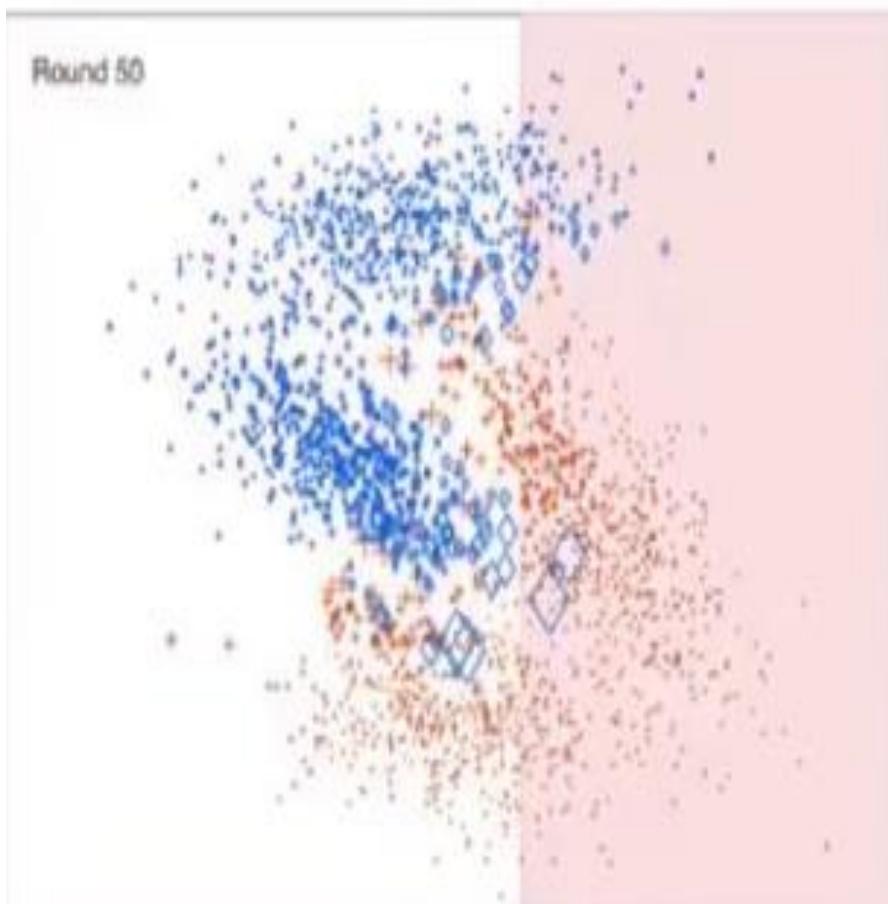
- Example 3



https://www.slideshare.net/DataRobot/gradient-boosted-regression-trees-in-sklearn?from_action=save

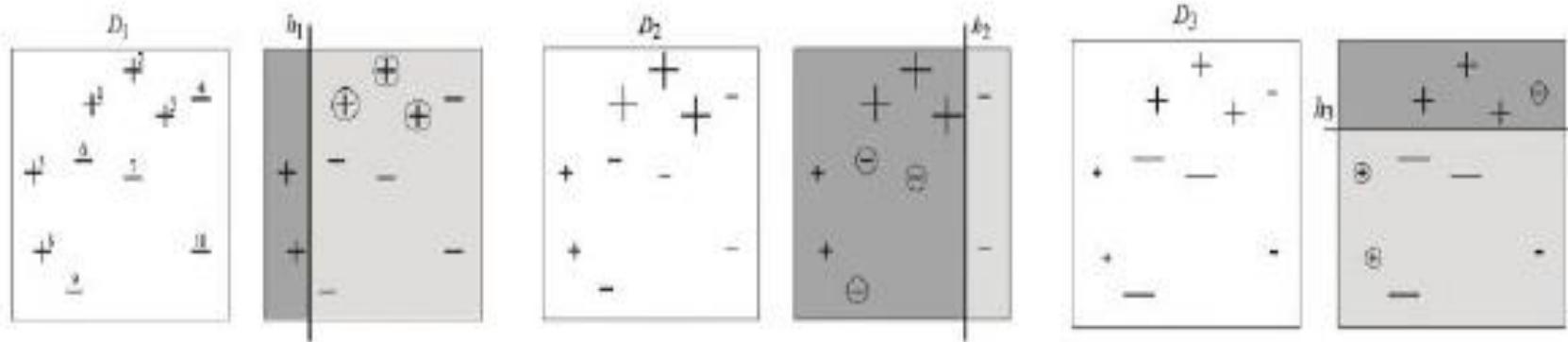
Adaboost

- Example 4



Adaboost

□ Example 5



$$H(x') = \text{sign} \left(\sum_{t=1}^T \alpha_t h_t(x') \right)$$
$$= \text{sign} \left(0,42 \begin{array}{|c|c|} \hline & + \\ \hline + & - \\ \hline \end{array} + 0,65 \begin{array}{|c|c|} \hline & + \\ \hline + & - \\ \hline \end{array} + 0,92 \begin{array}{|c|c|} \hline & + \\ \hline + & - \\ \hline \end{array} \right)$$