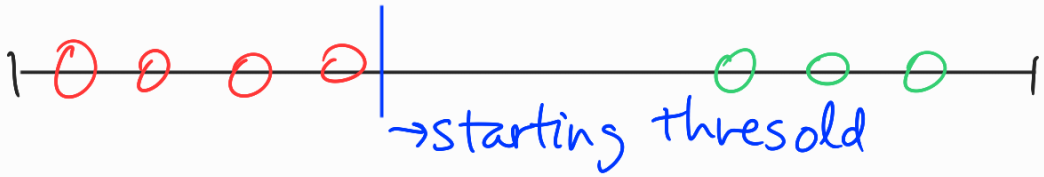
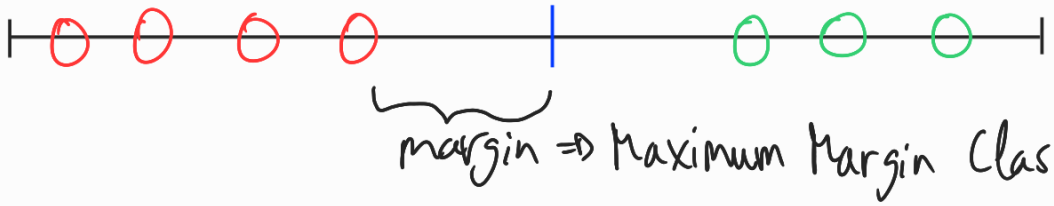
Random threshold



Midpoint threshold

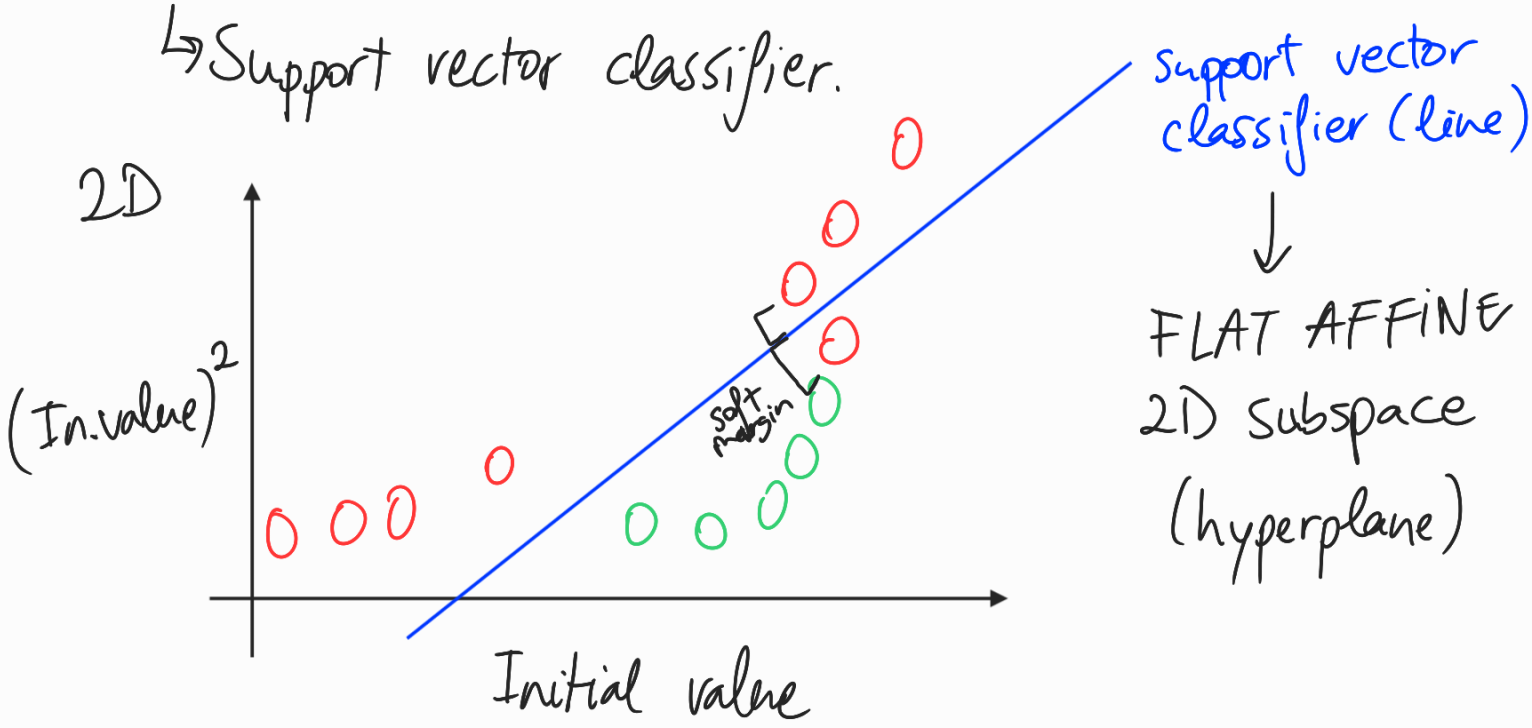


Not good due to outliers.

But if we ALLOW misclassification, we can define a Soft Margin: distance(sample, threshold).

To determine the best: cross validation.

↳ Support vector classifier.



But, how do we determine wether to use $y=x^2$, $y=x^3$, ...? → Kernel function

When ***d* = 1**, the **Polynomial Kernel** computes the relationships between each pair of observations in **1-Dimension**...