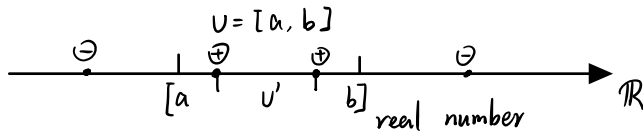Given a, b, c $(a < b < c)$

Generate random sequence

Goal: Generation times of learning the rules.
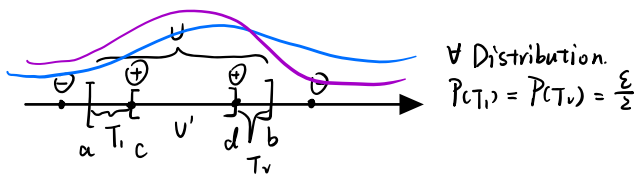
Regression, SVM ?

$U = [a, b]$

Depends on length of U, (a, b)

Goal: To learn an estimate of U (U') s.t. high probability
↑
misclassification rate is ε

Algorithm: tightest fit

$\forall$ Distribution.
$P(T_1) = P(T_v) = \frac{\varepsilon}{2}$

Misclassification Rate of U': $P([a,c] \cup [d,b])$

Probability generate an example outside T_1 or T_v: $1 - \frac{\varepsilon}{2}$

$\quad\sim\quad\quad\sim\quad\quad m \quad-\,-\,-\quad-\,-\quad\sim\quad (1-\frac{\varepsilon}{2})^m$

$\therefore \ 1 - P(T_1 \cup T_v) \leq 2(1-\frac{\varepsilon}{2})^m$
↑
Outside of $T_1 \cup T_v$

$1 - 2(1-\frac{\varepsilon}{2})^m \geq P$

$1 - P \geq 2(1-\frac{\varepsilon}{2})^m$

$m \geq \frac{2}{\varepsilon} \log(\frac{2}{1-P})$

$\boxed{\text{Trick} \quad 1-x \leq e^{-x}}$

Two Dimension