Algorithm	Input	Output	Learns by	Complexity Control	Notes
• Naive Bayes	boolean feature vector	discrete	estimating conditional probabilities (counting)	Assumes independent features	LaPlace Correction, XOR
• basic Decision Tree	boolean feature vector	discrete	minimizing average entropy at the branches	parametric: leaf size, minimum entropy	
• Continuous-Valued Decision Tree	real feature vector	discrete	minimizing average entropy at the branches		
• K-Nearest Neighbor	real feature vector	discrete	memorizing all points	parametric: K	Scaling
• Perceptron	real feature vector	discrete	maximizing margin (weight space search)	limited to linear separator	guarantees separator if it exists
• SVM	real feature vector	discrete	maximizing margin (quadratic programming)	maximizes margin in error function	
• Neural Net	real feature vector	discrete	gradient descent (weight space search)	architecture	Architecture, Scaling
• Neural Net Regression	real feature vector	real	gradient descent (weight space search)	architecture	Architecture, Scaling
• Regression Trees	real feature vector	real	minimizing variance at the branches		Kernel functions (not SVM kernels)
• Nearest Neighbor Regression	real feature vector	real	memorizing all points		Kernel functions (not SVM kernels)