PATTERN RECOGNITION AND MACHINE LEARNING

CHAPTER 7: SPARSE KERNEL MACHINES

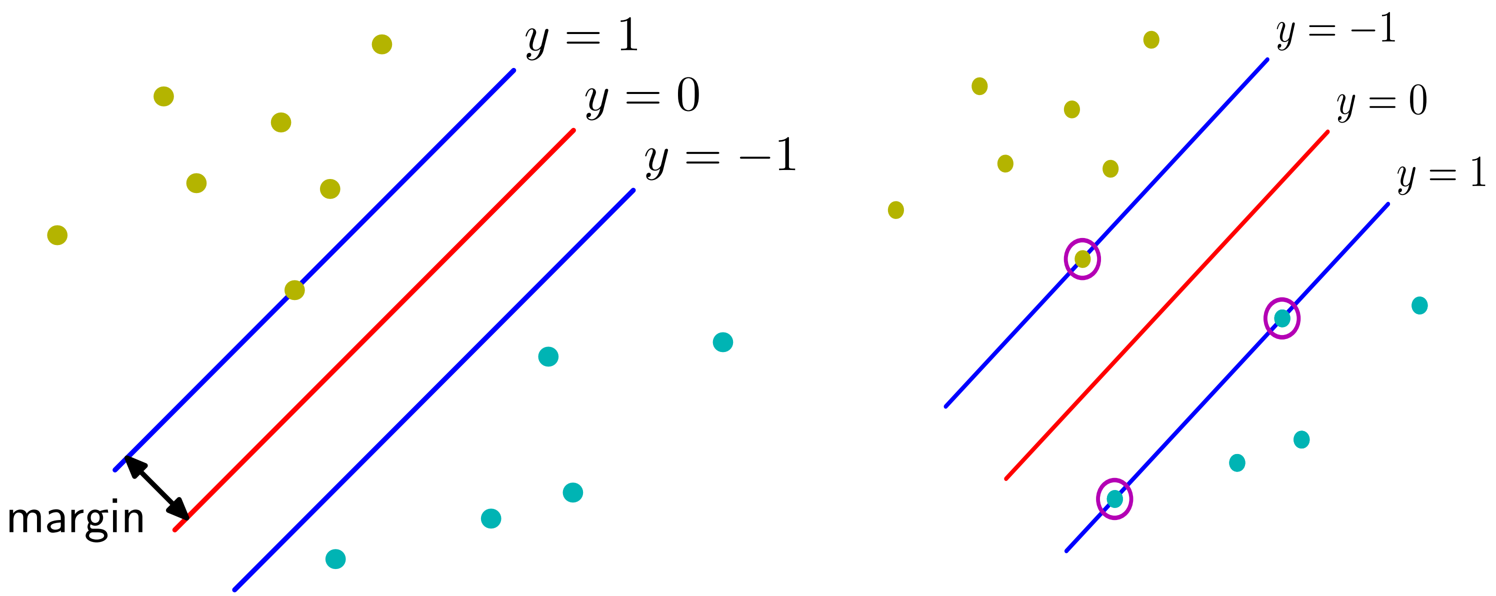
OUTLINE

7. Sparse Kernel Machines

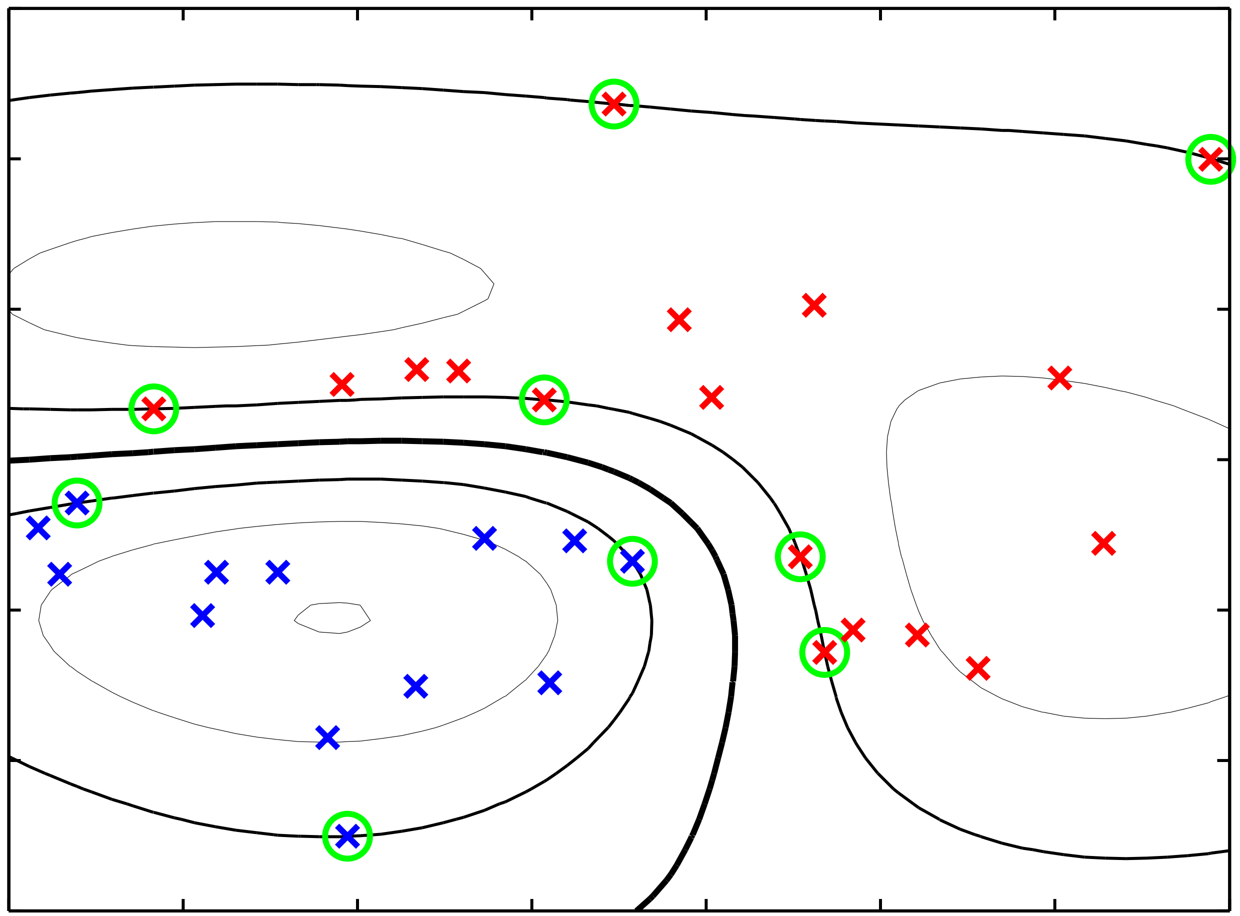
7.1 Maximum Margin Classifiers

7.2 Relevance Vector Machines

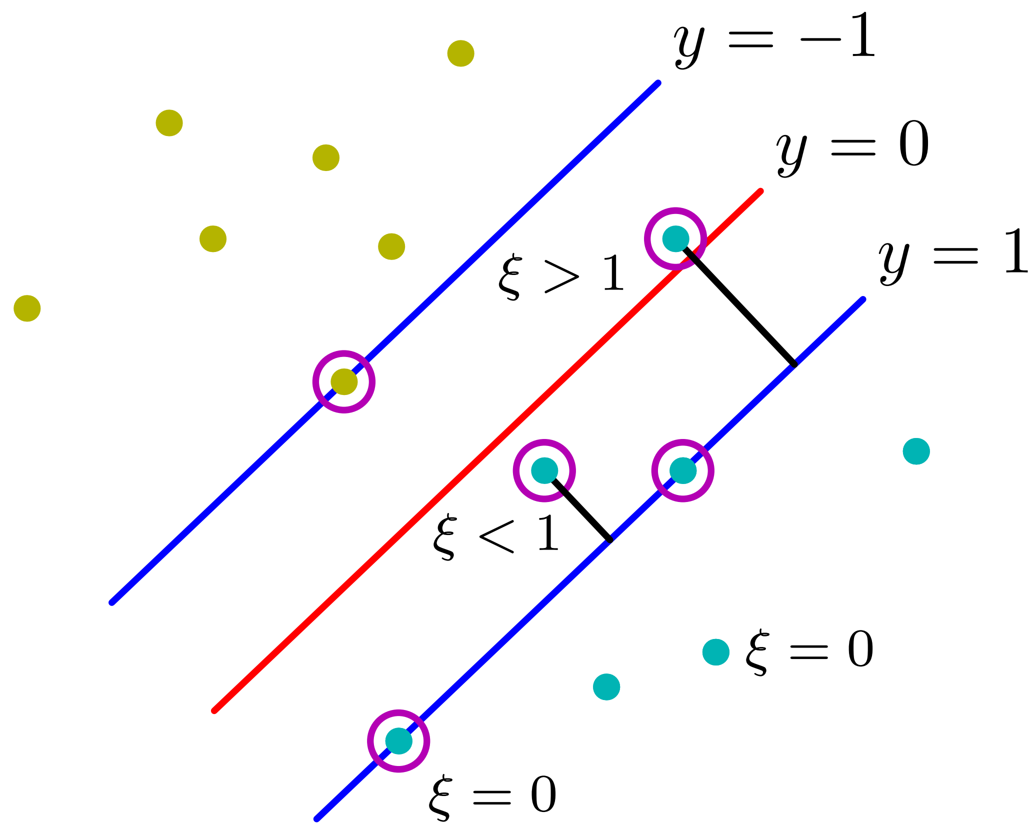
Margin



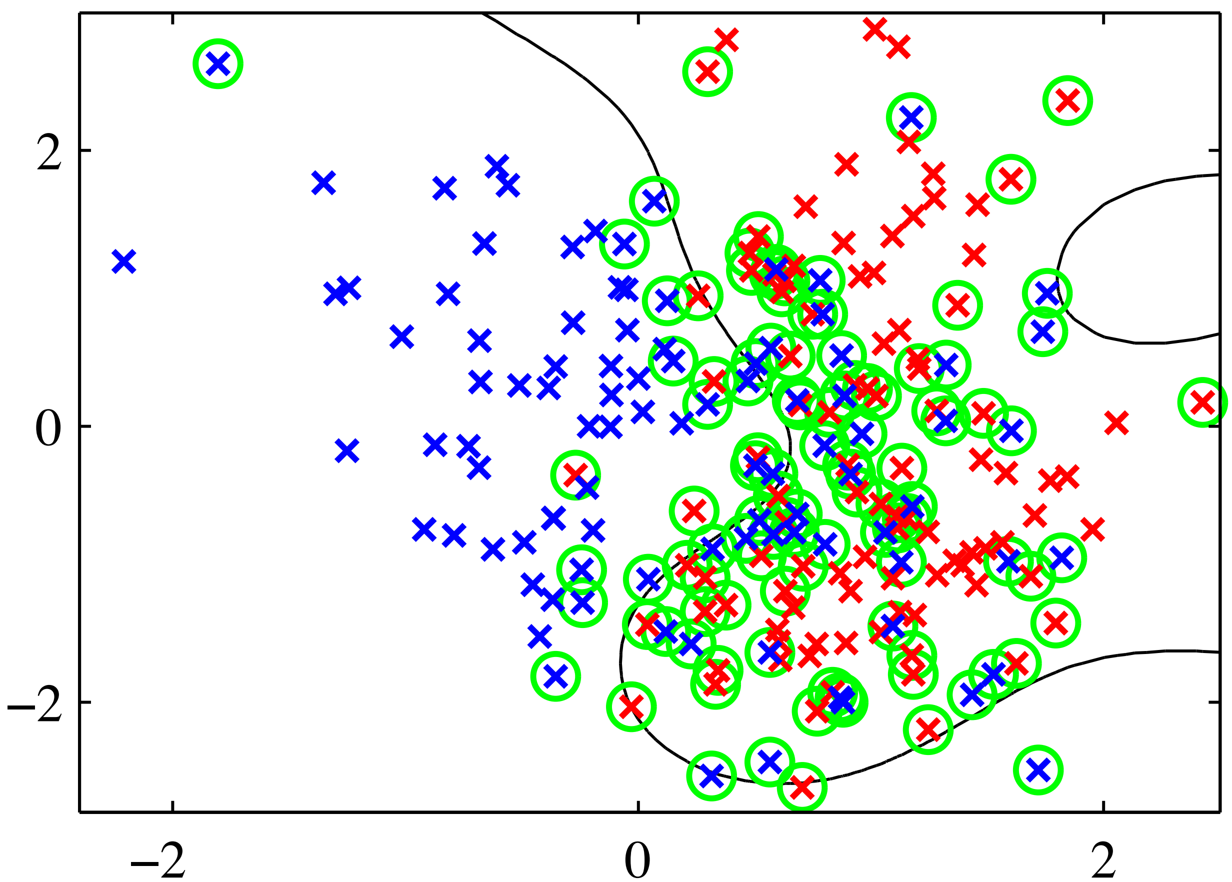
SVM with Gaussian Kernel



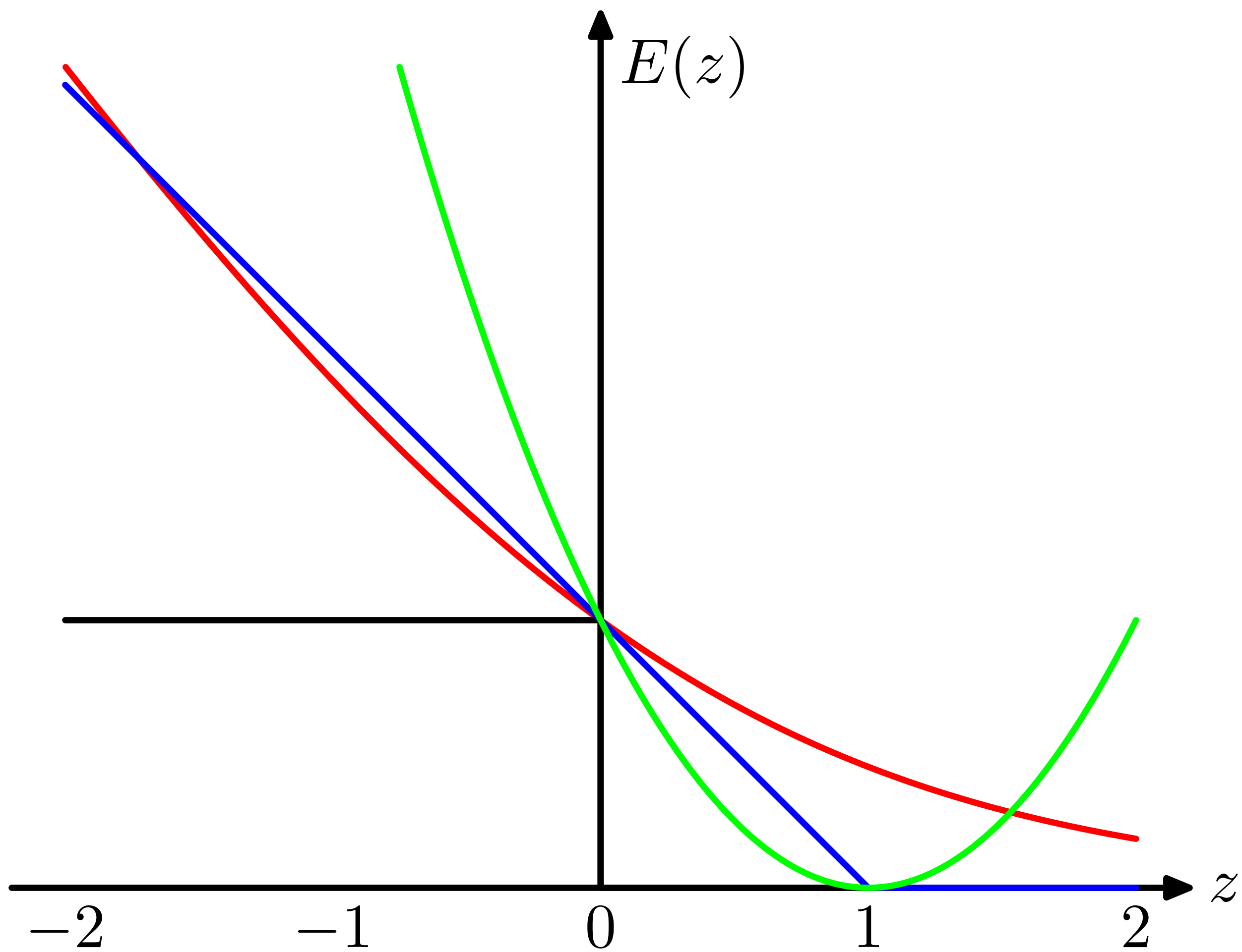
Stick Variables



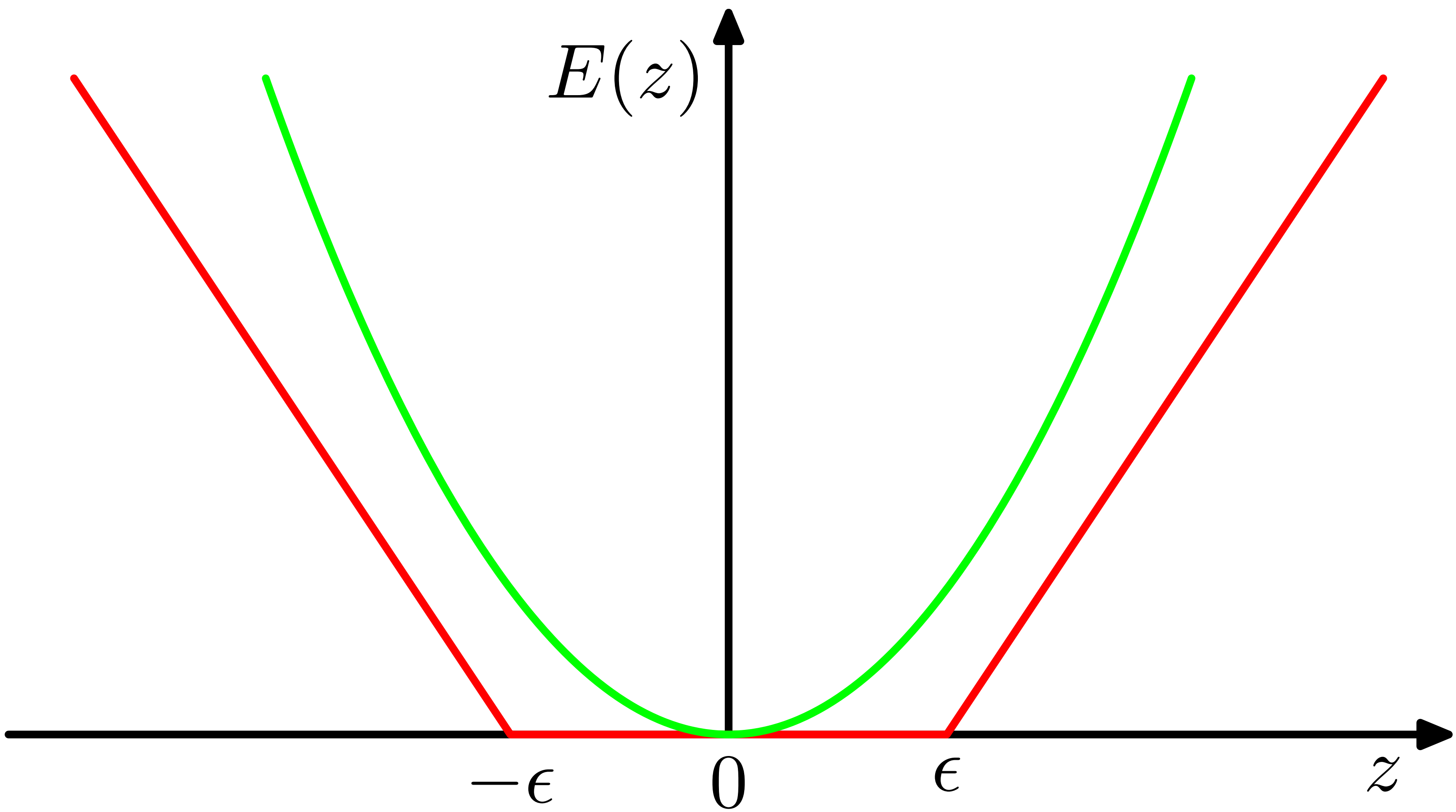
ν-SVM -- Nonseparable



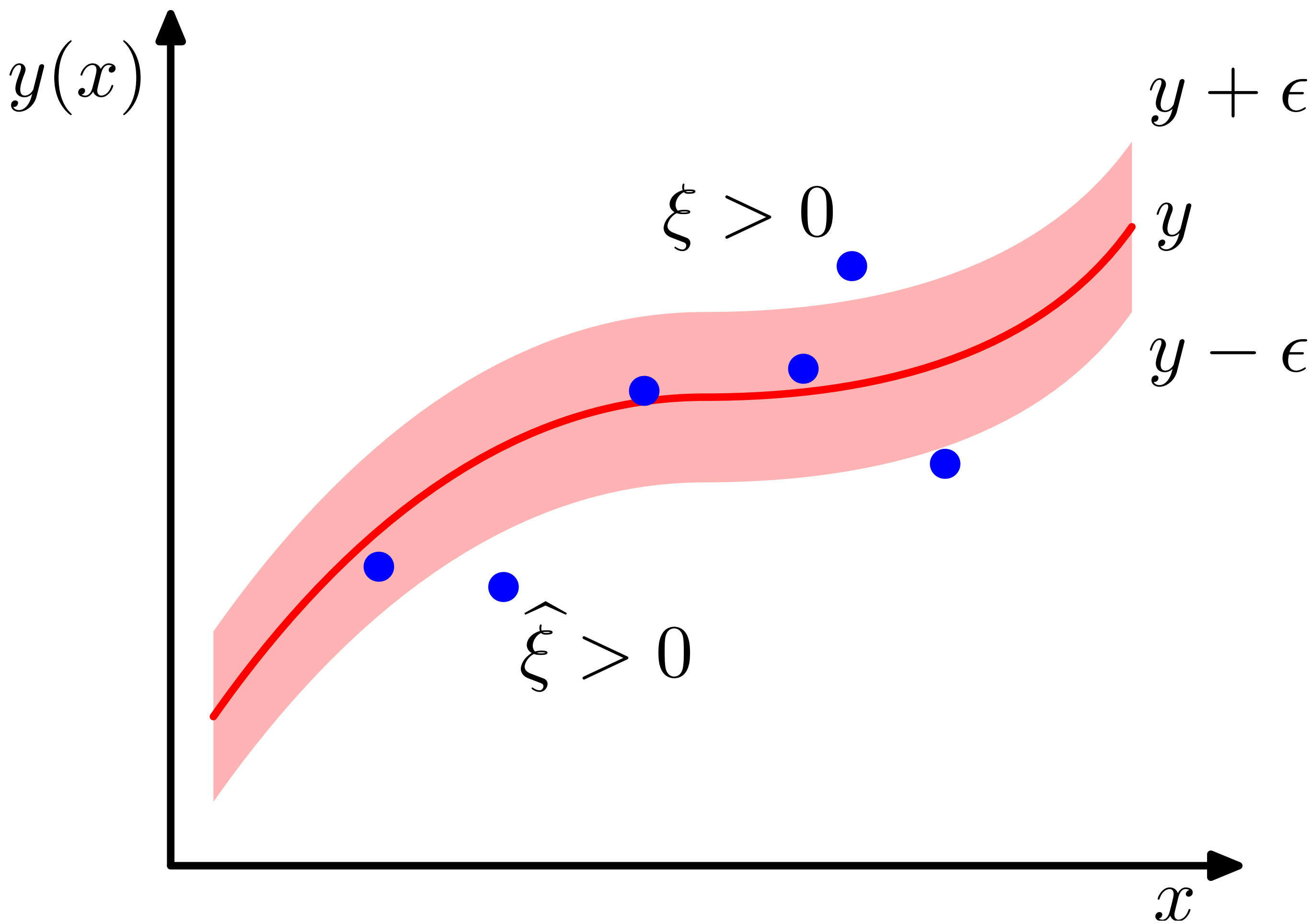
Hinge Error



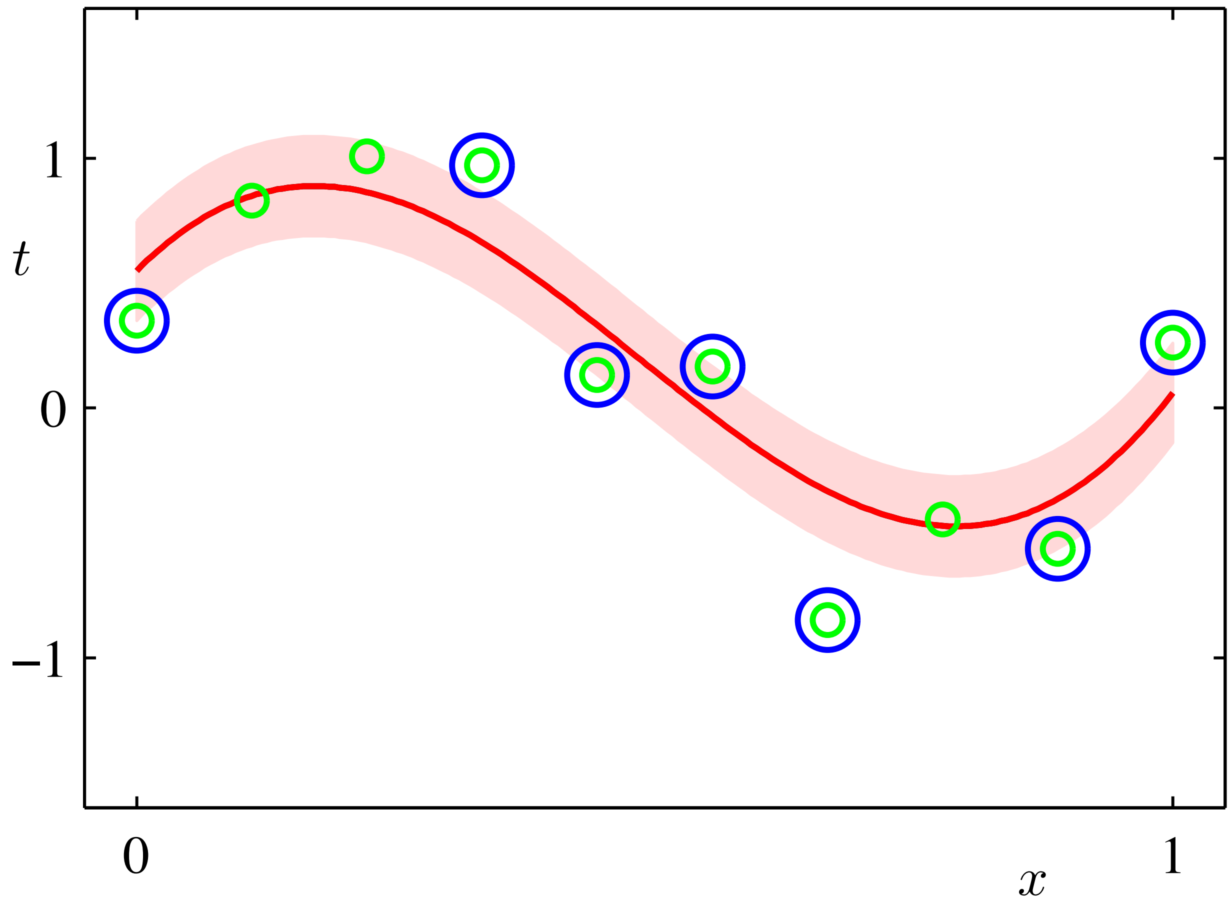
$\boldsymbol{\varepsilon}$-insensitive error function (red) vs. quadratic (green)



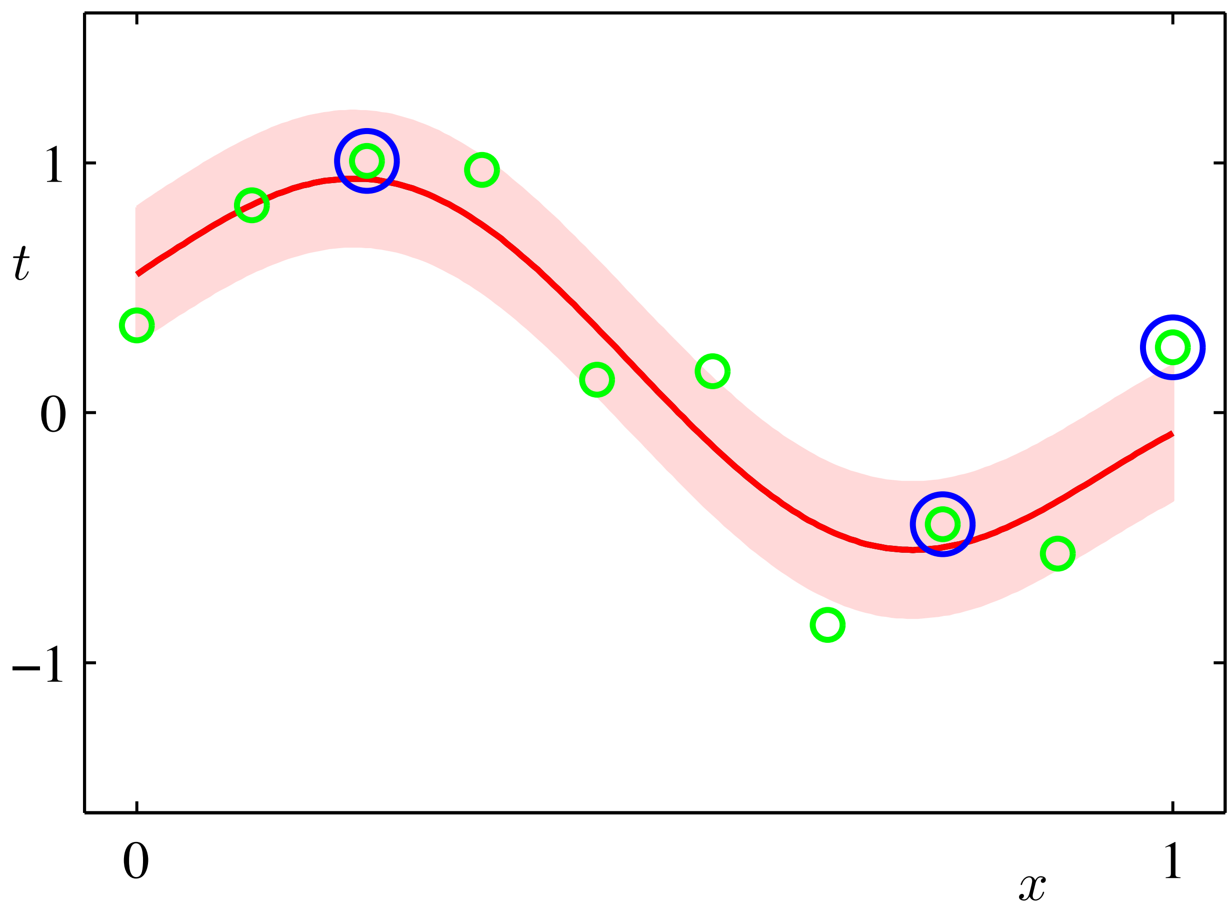
SVM Regression



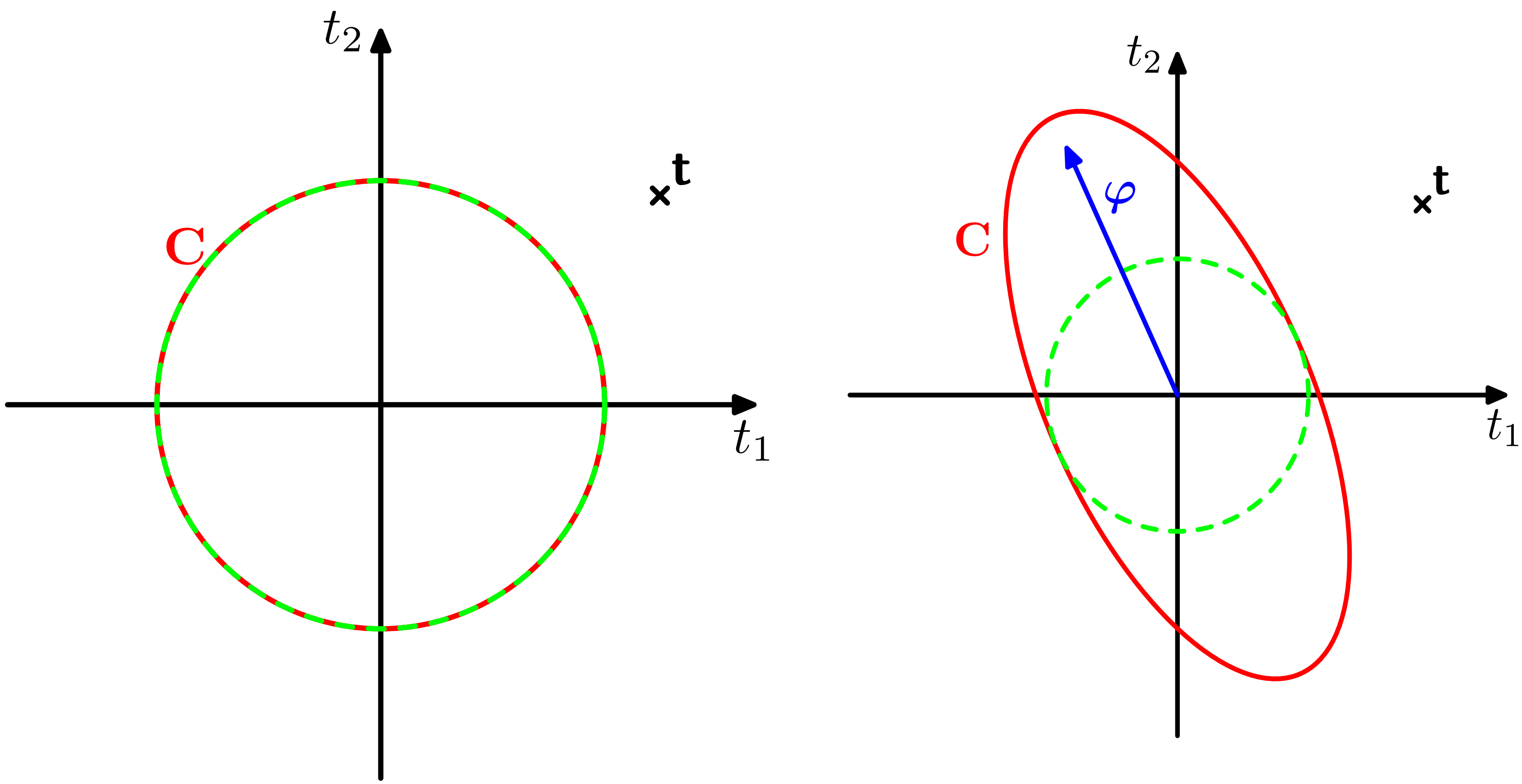
ν-SVM for Regression



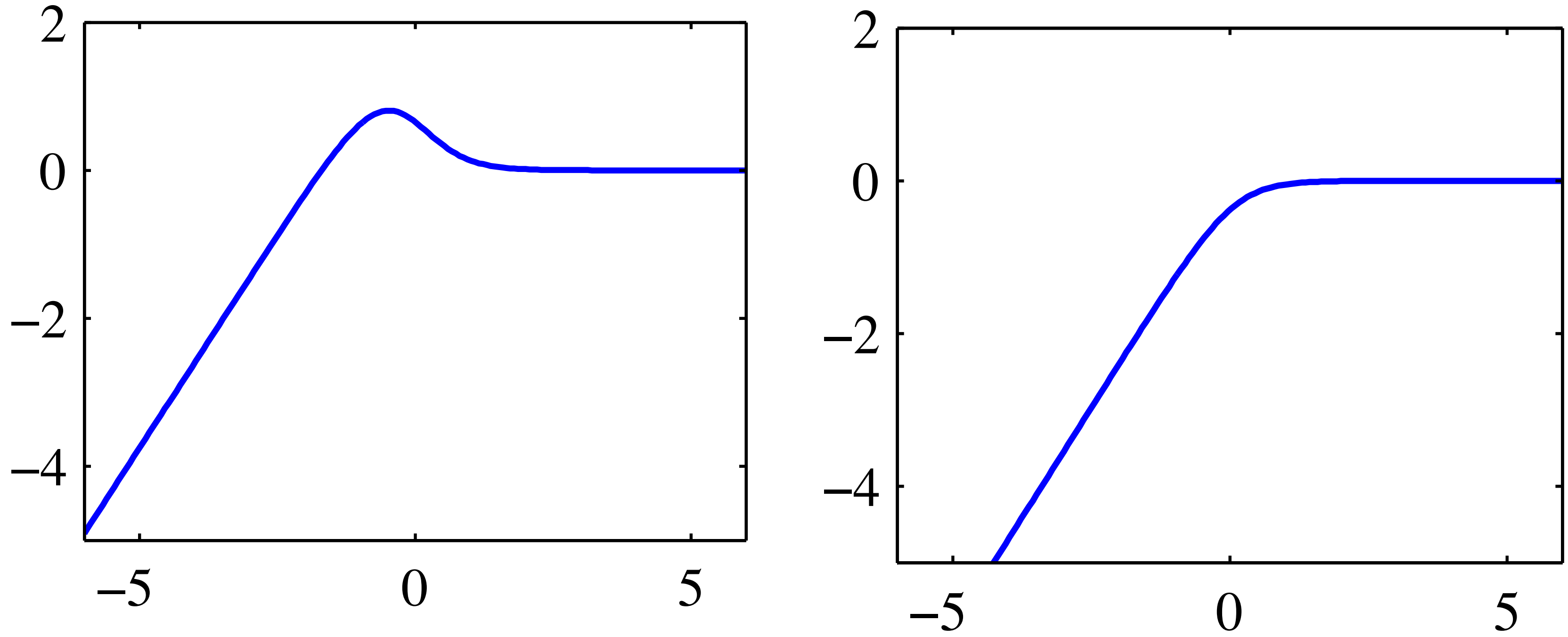
RVM



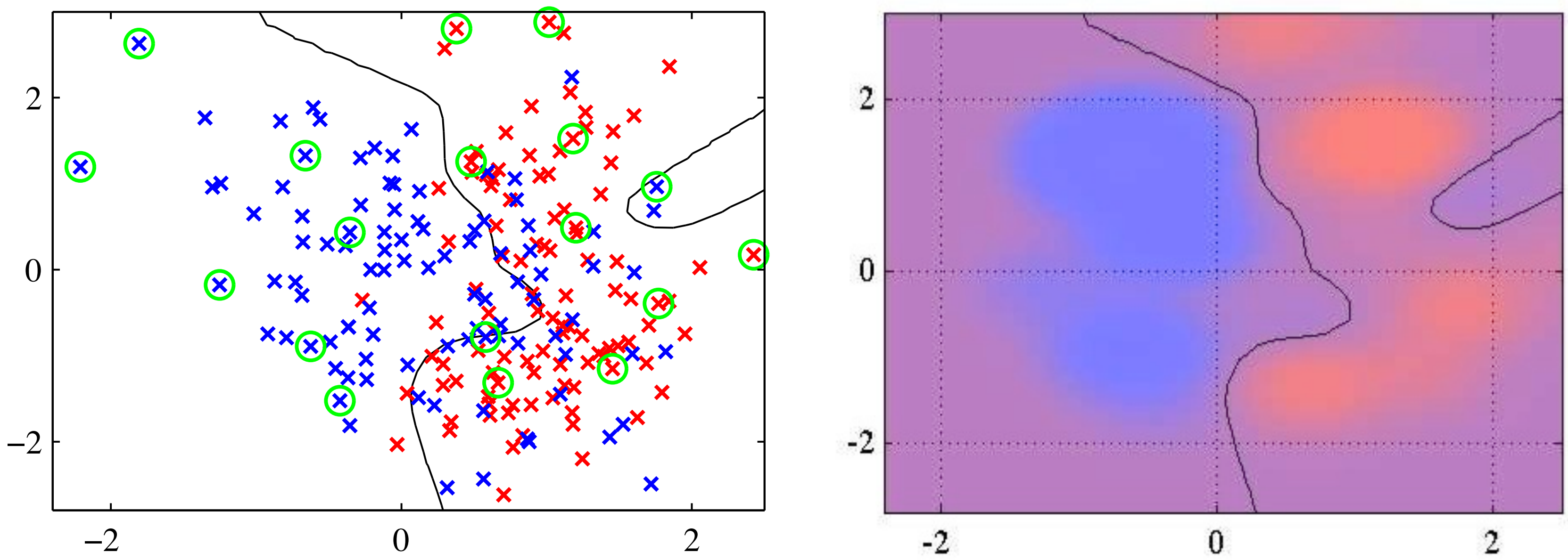
Sparsity in Bayesian Linear Regression



Log marginal likelihood $\lambda(\alpha_i)$ vs. ln α_i



RVM on Synthetic Data



circles: relevance vectors