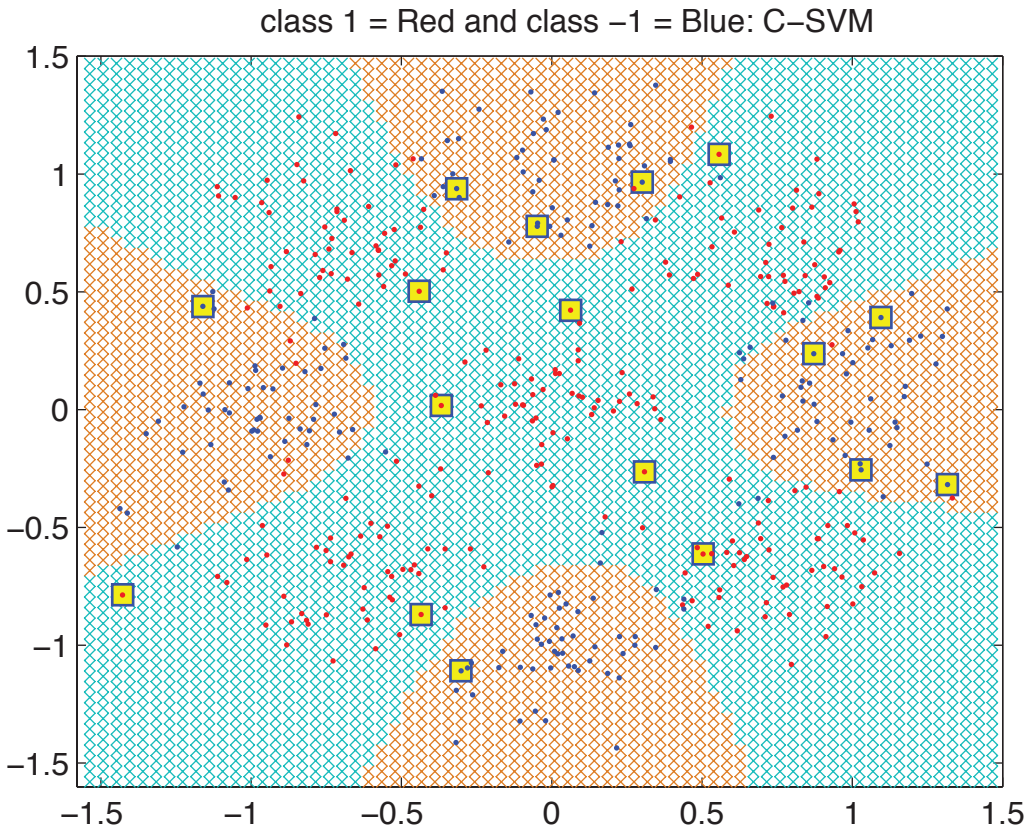
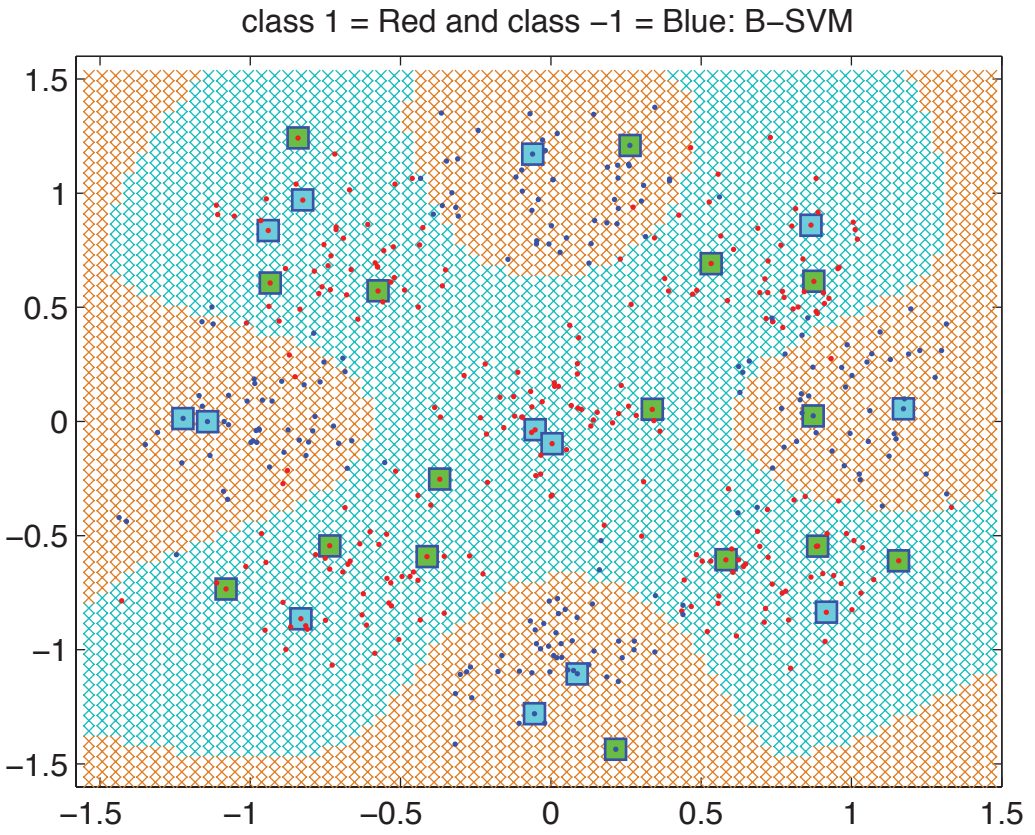
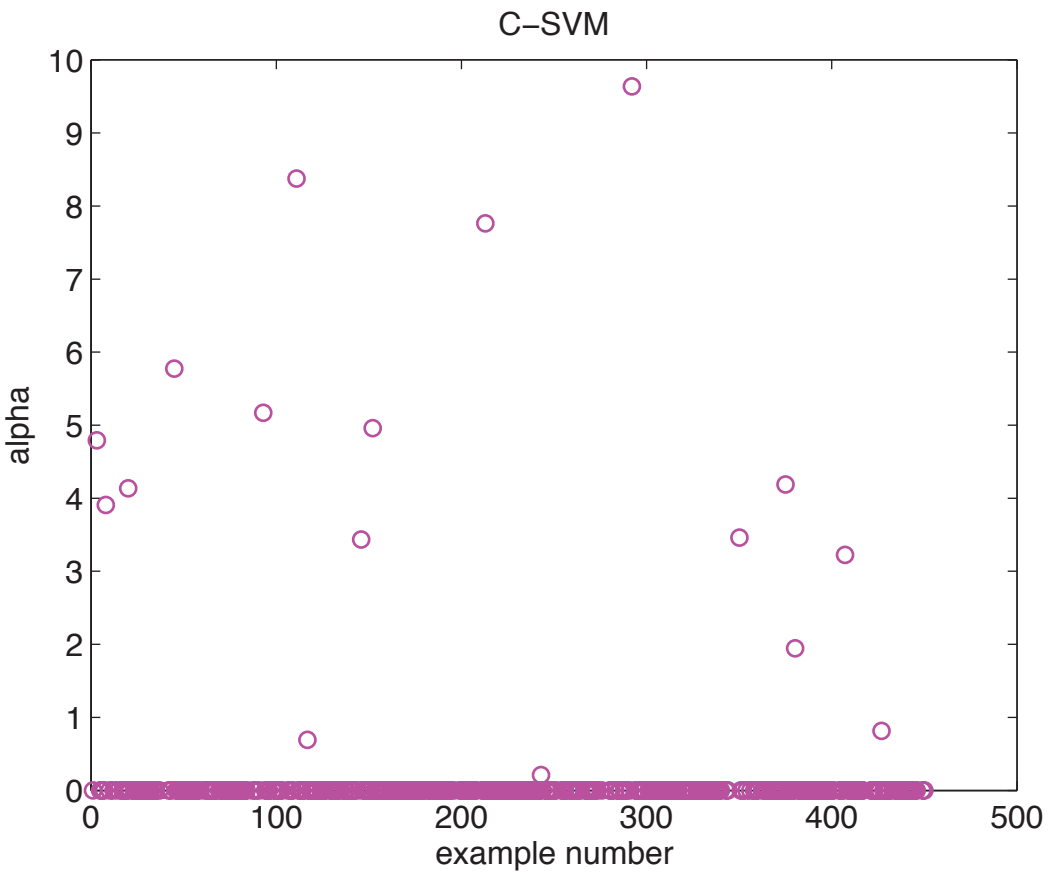


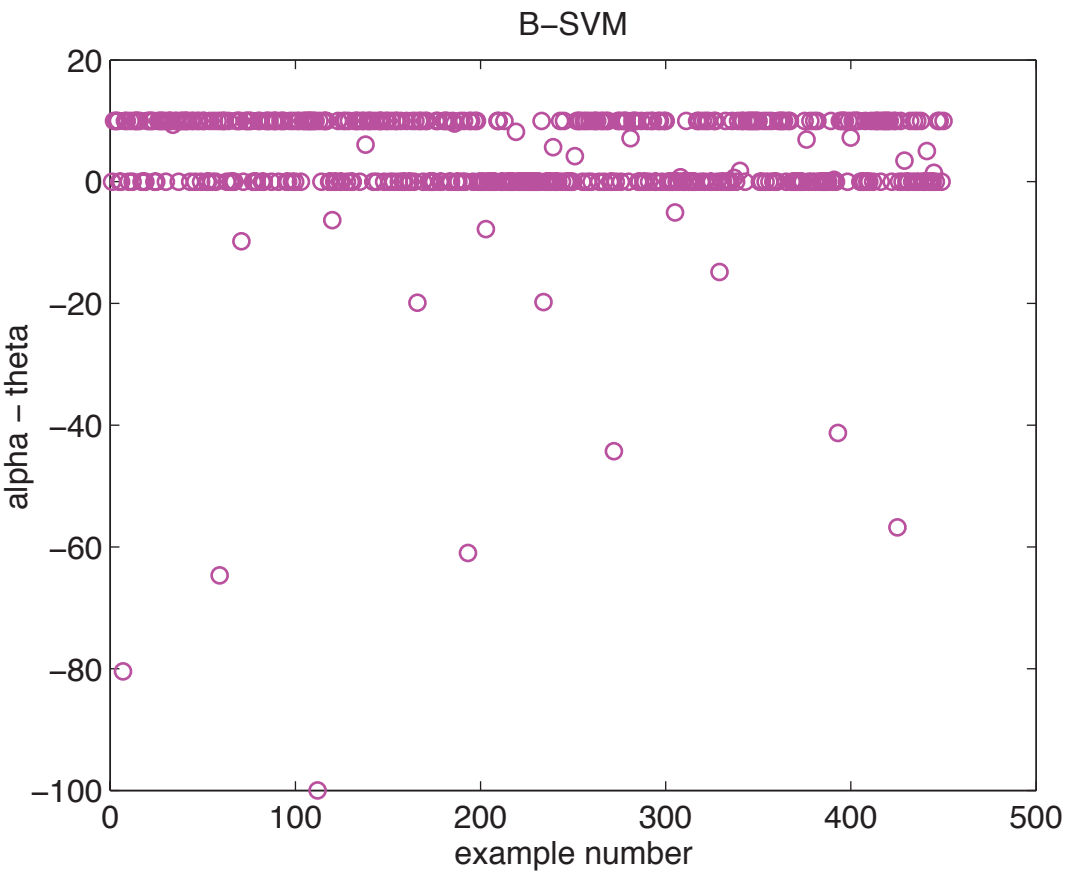
(a) C-SVM classification



(b) B-SVM classification



(c) C-SVM $\boldsymbol{\alpha}$



(d) B-SVM $(\boldsymbol{\alpha} - \boldsymbol{\theta})$

Figure 2: Figure shows classification for example data using both (a) C-SVM and (b) B-SVM. Red and Blue points (.) correspond to class $+1$ and -1 respectively. Cyan and Orange x-marks (x) show the C-SVM and B-SVM decision rules evaluated at various points. Class 1 membership is indicated in Cyan and class -1 membership is indicated in Orange. The yellow squares in (a) correspond to support points for which $0 < \alpha_i < C$. The cyan squares in (b) correspond to support points for which $0 < \theta_i < C_2$ and the green squares correspond to support points for which $0 < \alpha_i < C_1$. The sparsity of solution is controlled by $\boldsymbol{\alpha}$ in the case of C-SVM and $(\boldsymbol{\alpha} - \boldsymbol{\theta})$ in the case of B-SVM (c) Shows α_i values for C-SVM. (d) Shows $(\alpha_i - \theta_i)$ values for B-SVM.