

Figure 1: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and with respect to for fixed C value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and . For each curve,  $\nabla$  denotes the minimum point.

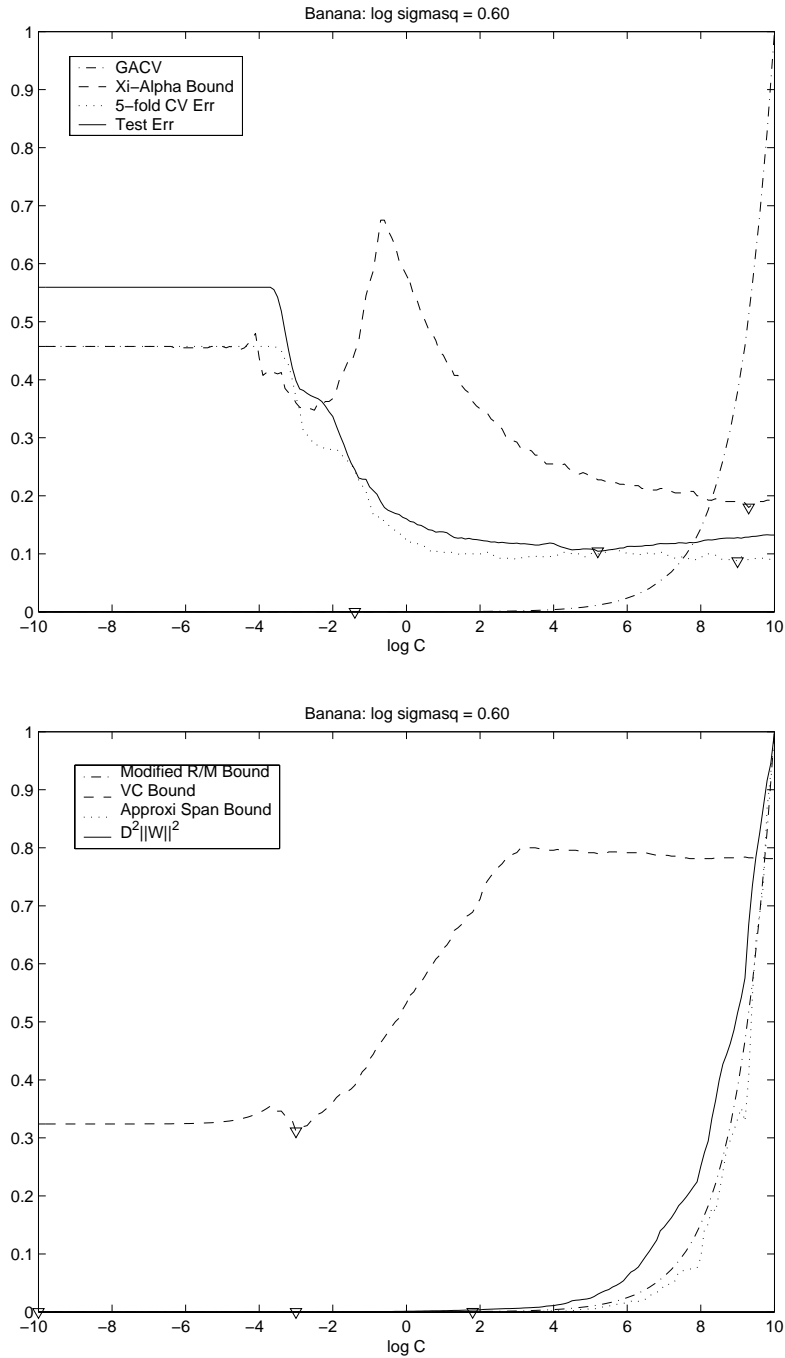


Figure 2: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and  $D^2\|w\|^2$  with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and  $D^2\|w\|^2$ . For each curve,  $\nabla$  denotes the minimum point.

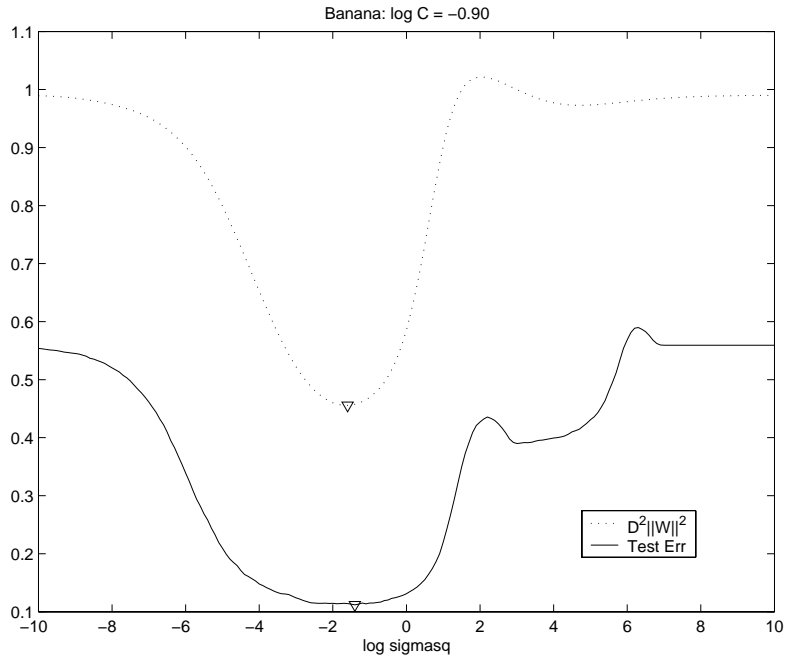


Figure 3: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $\sigma^2$  for fixed  $C$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

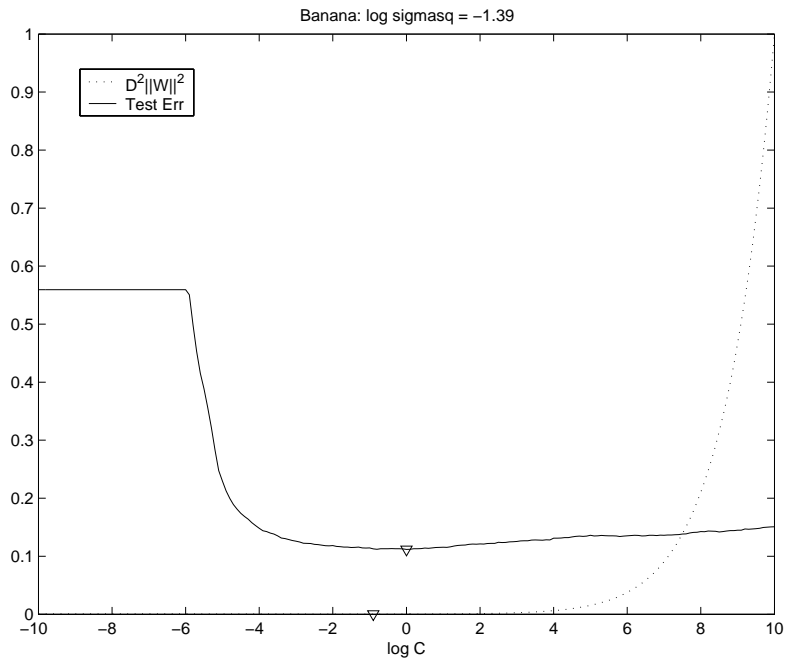


Figure 4: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

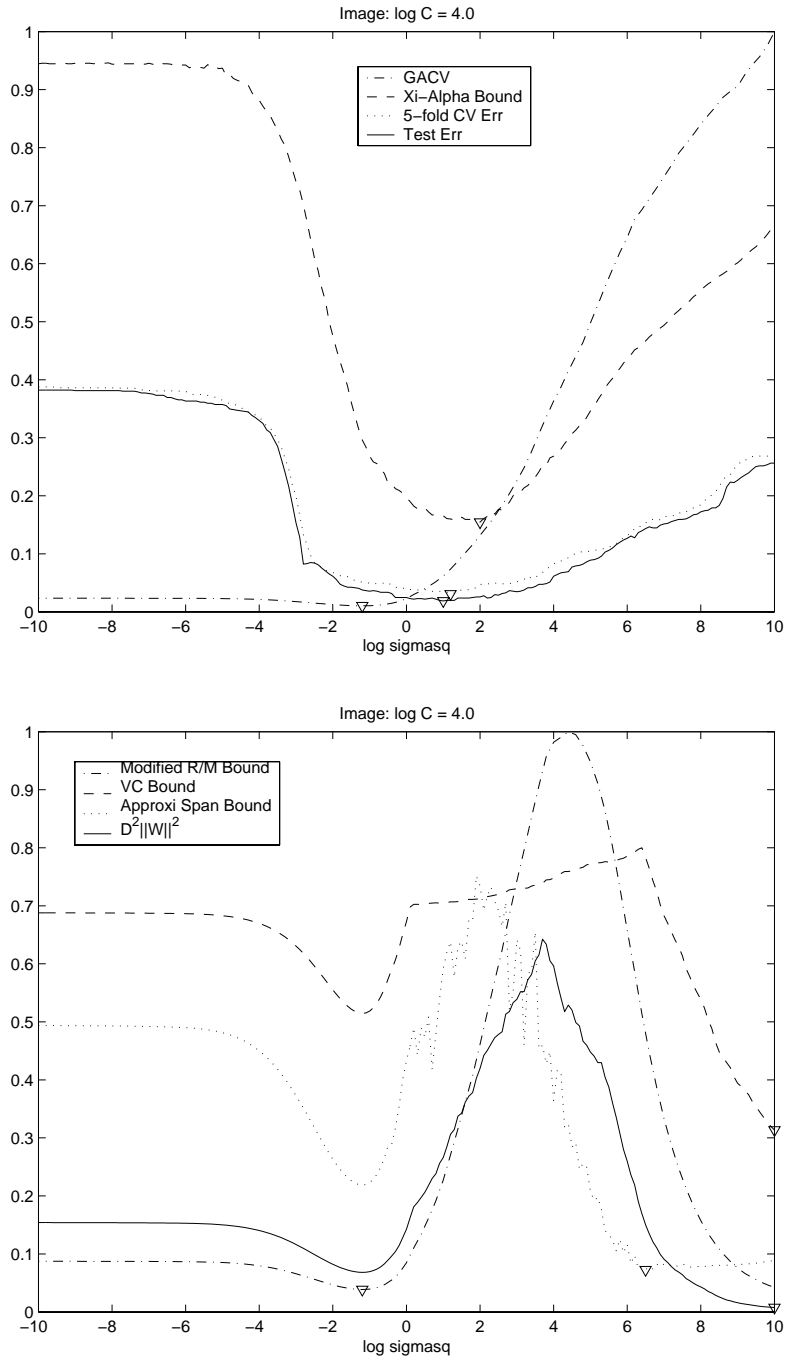


Figure 5: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and with respect to for fixed C value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and . For each curve,  $\nabla$  denotes the minimum point.

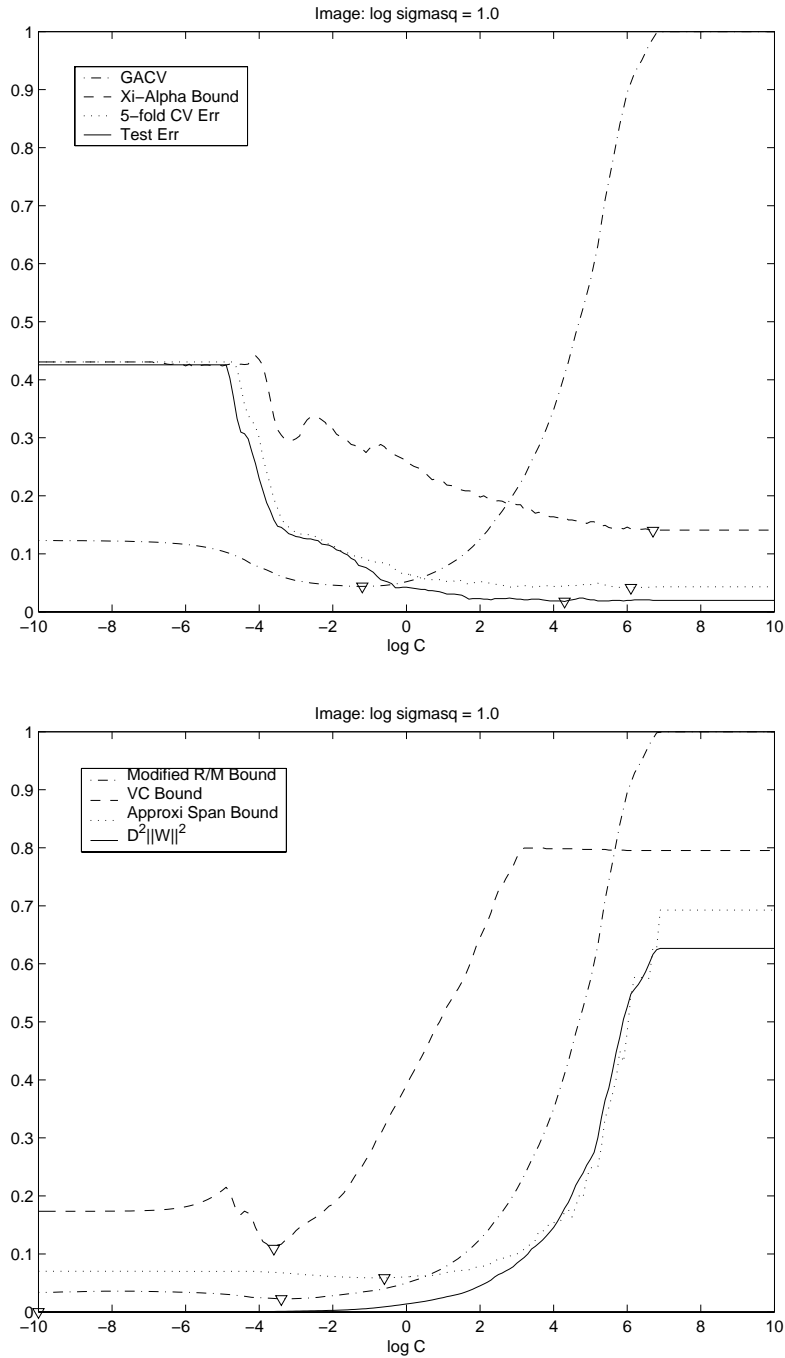


Figure 6: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and  $D^2||w||^2$  with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and  $D^2||w||^2$ . For each curve,  $\nabla$  denotes the minimum point.

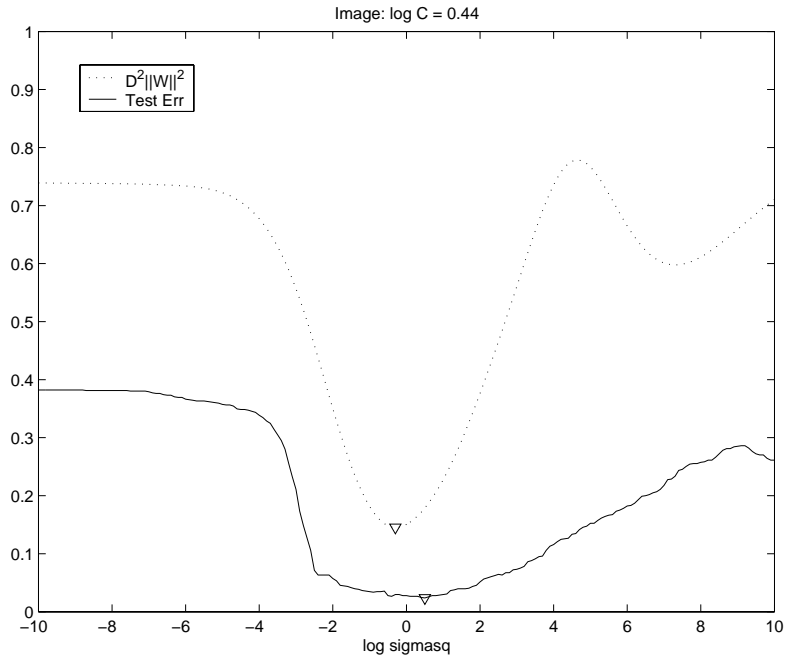


Figure 7: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $\sigma^2$  for fixed  $C$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

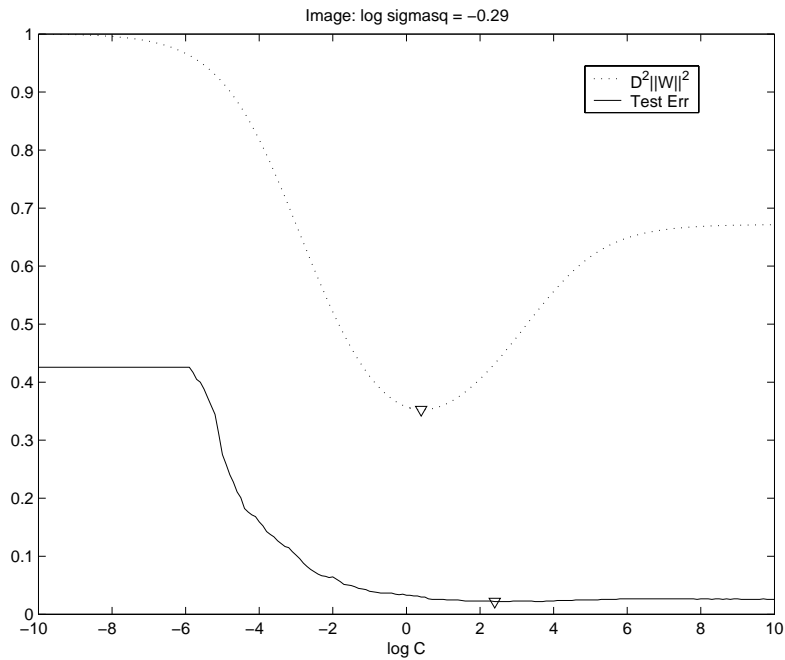


Figure 8: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

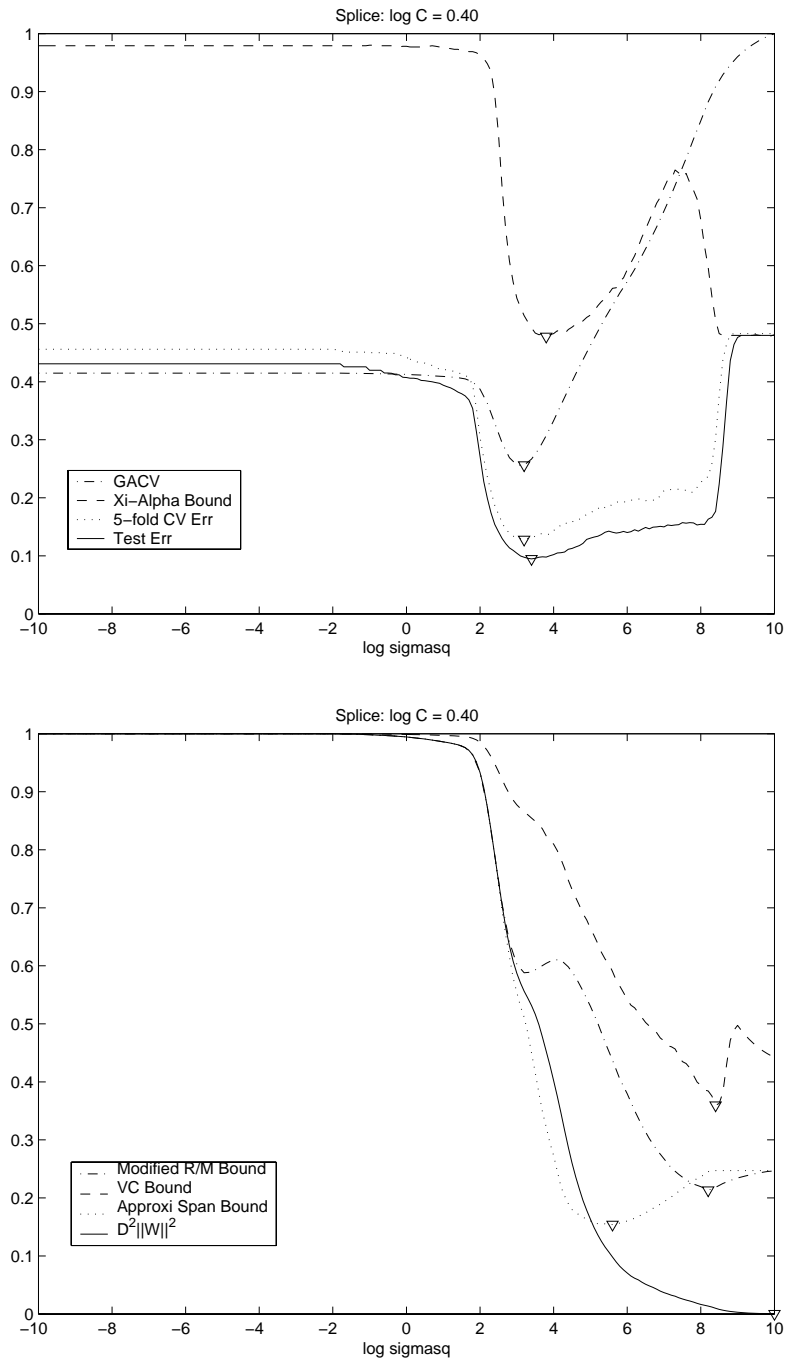


Figure 9: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and with respect to for fixed C value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and  $D^2||W||^2$ . For each curve,  $\nabla$  denotes the minimum point.

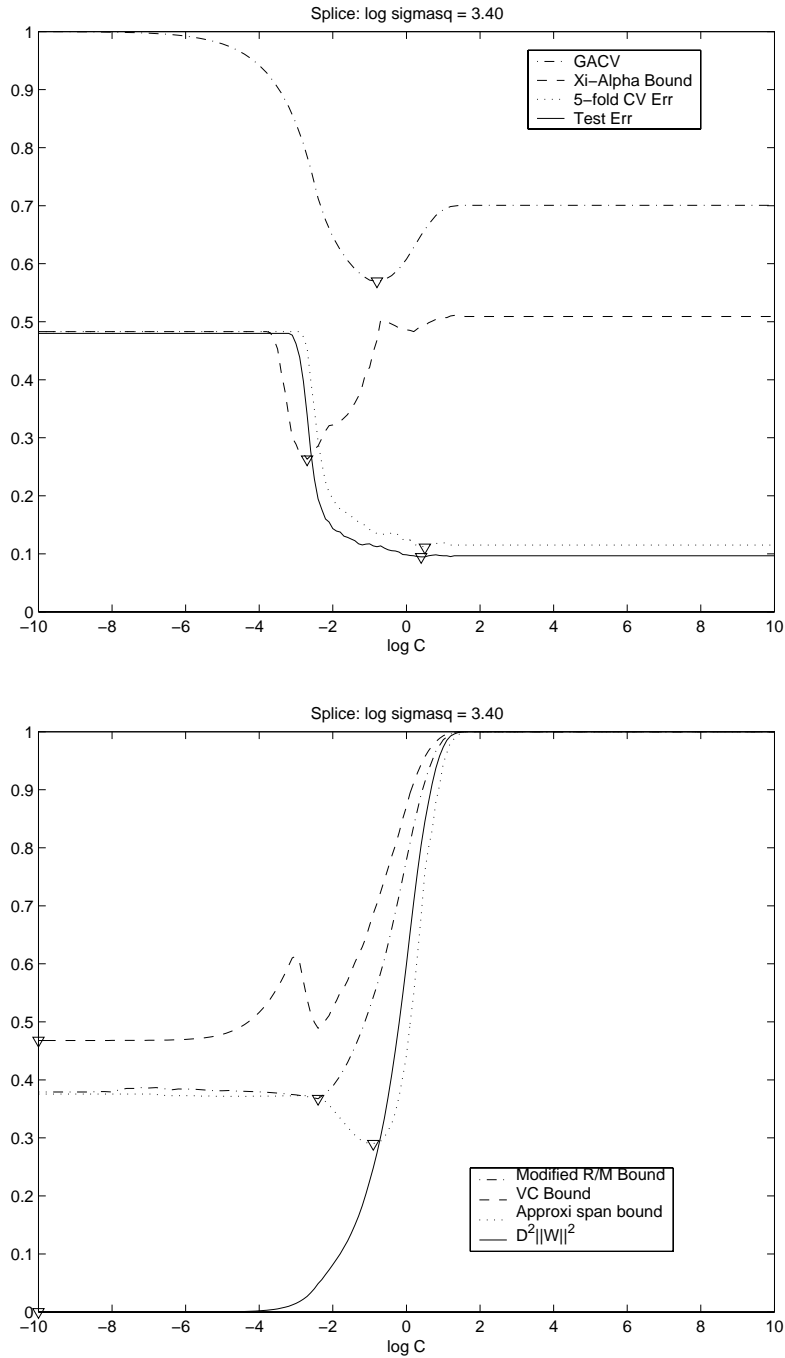


Figure 10: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and  $D^2\|w\|^2$  with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and  $D^2\|w\|^2$ . For each curve,  $\nabla$  denotes the minimum point.



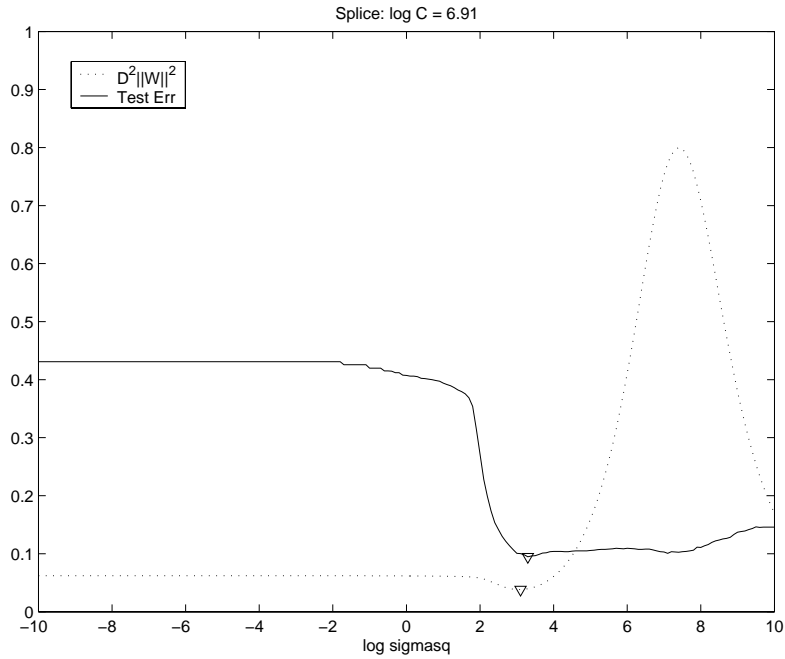


Figure 11: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $\sigma^2$  for fixed  $C$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

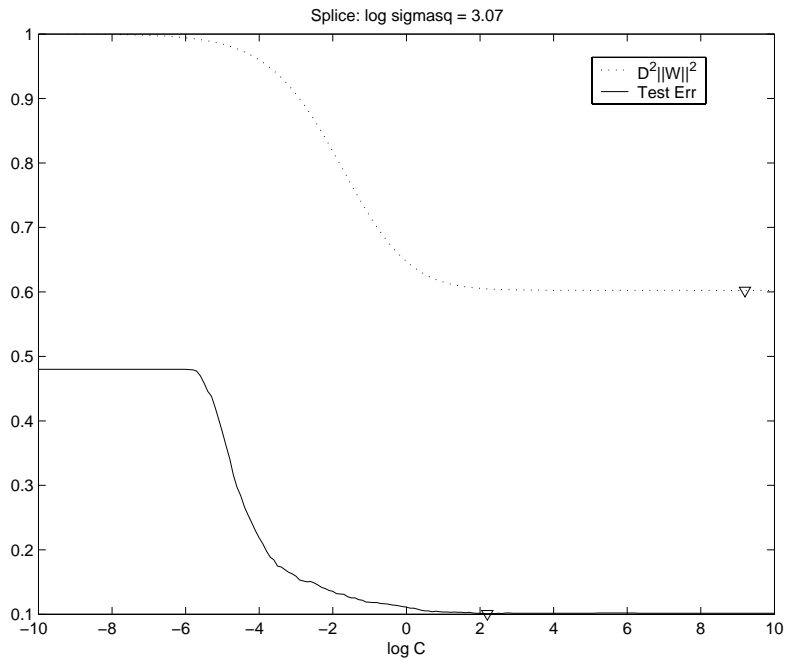


Figure 12: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

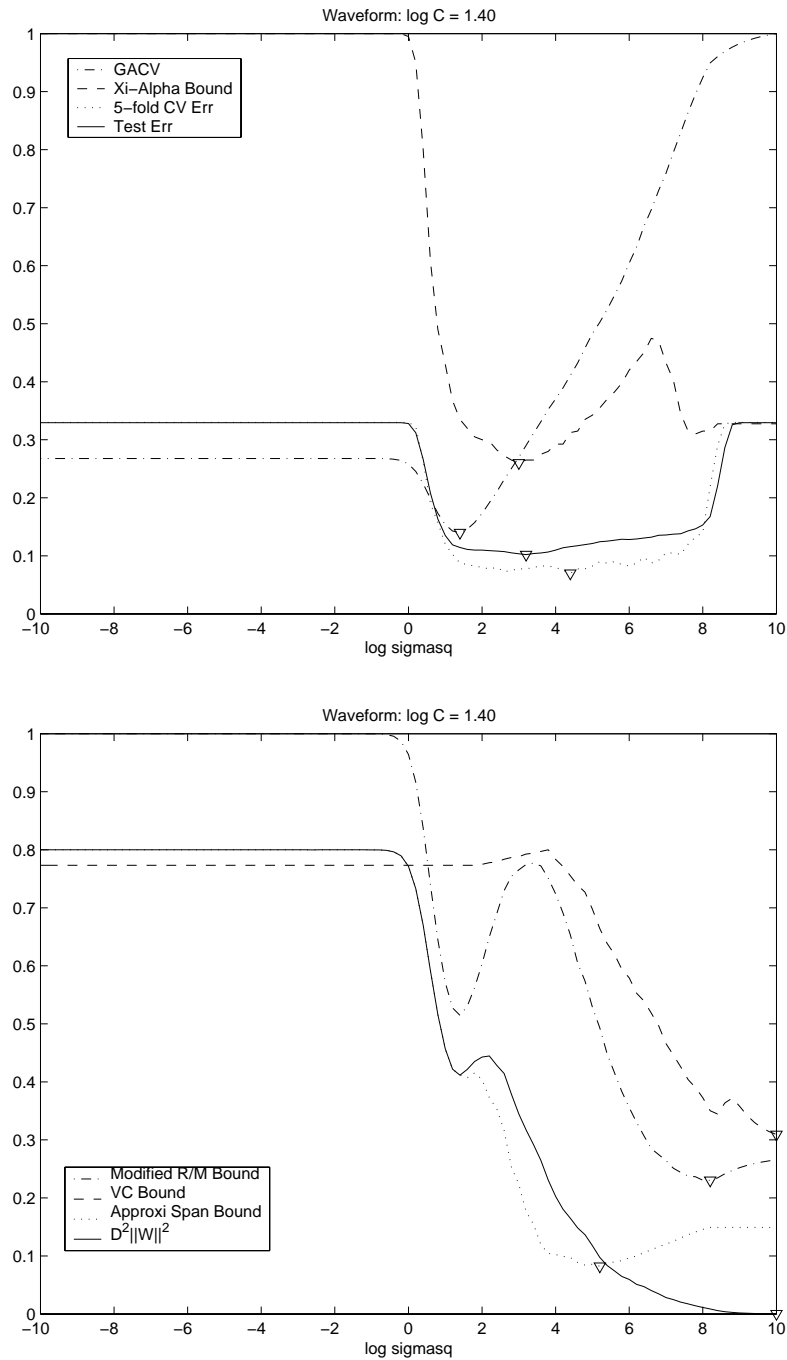


Figure 13: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and  $D^2||W||^2$  with respect to  $\sigma^2$  for fixed  $C$  value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and  $D^2||W||^2$ . For each curve,  $\nabla$  denotes the minimum point.

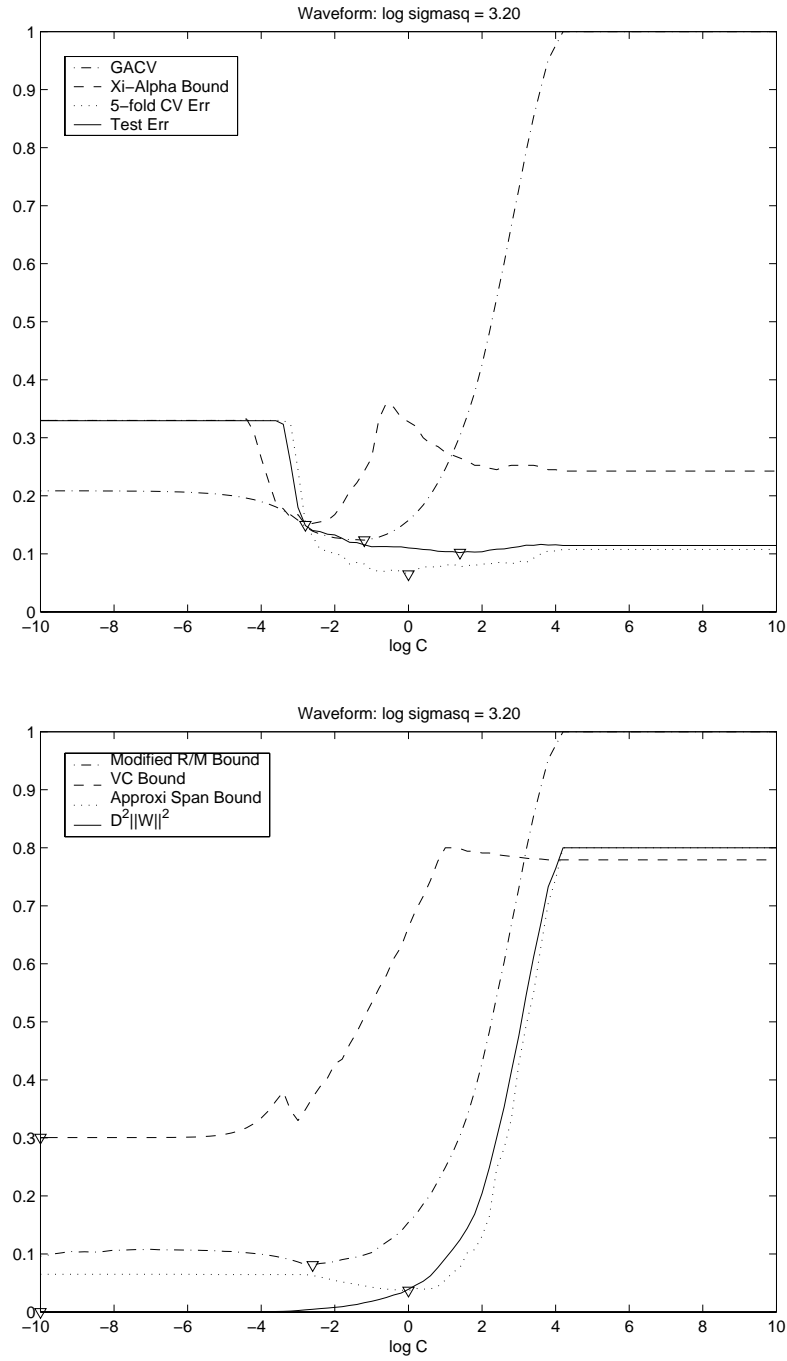


Figure 14: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and  $D^2\|w\|^2$  with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and  $D^2\|w\|^2$ . For each curve,  $\nabla$  denotes the minimum point.

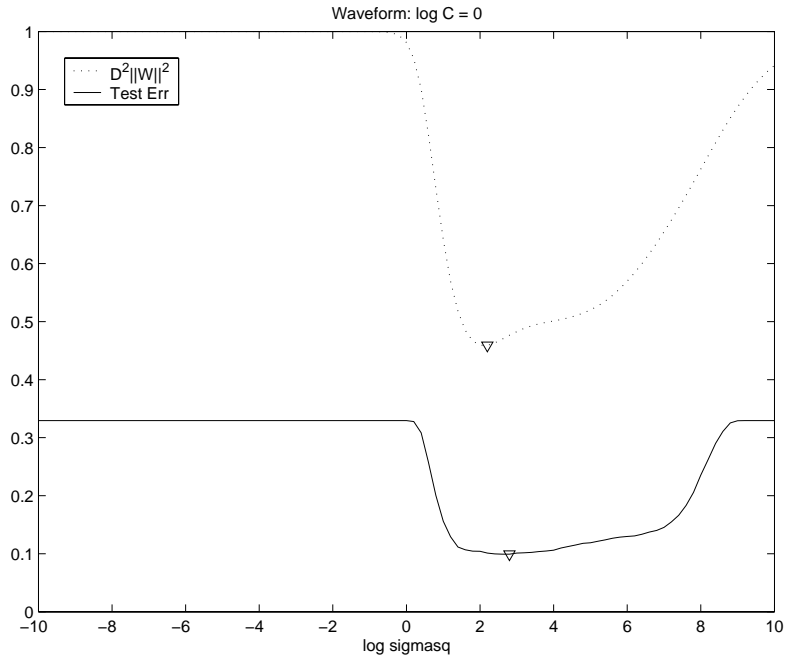


Figure 15: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $\sigma^2$  for fixed  $C$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

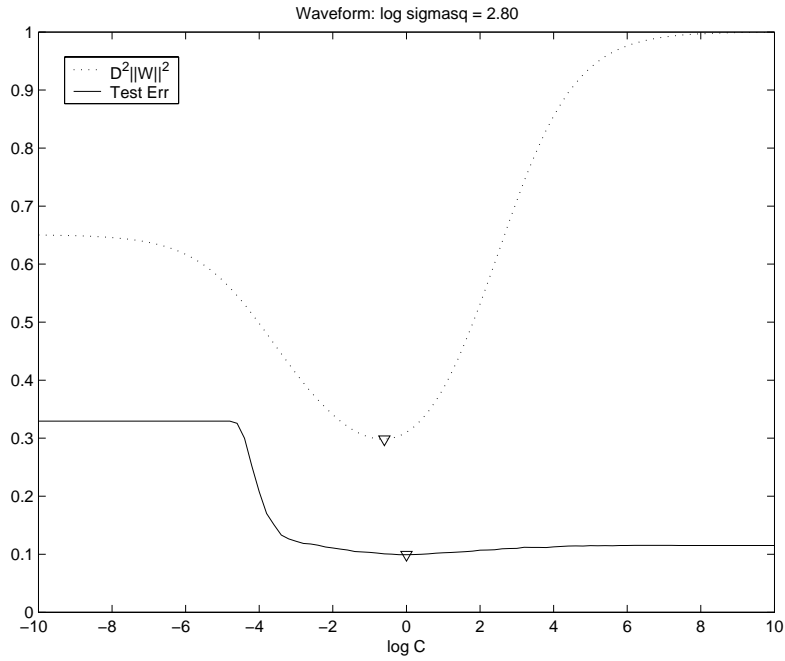


Figure 16: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

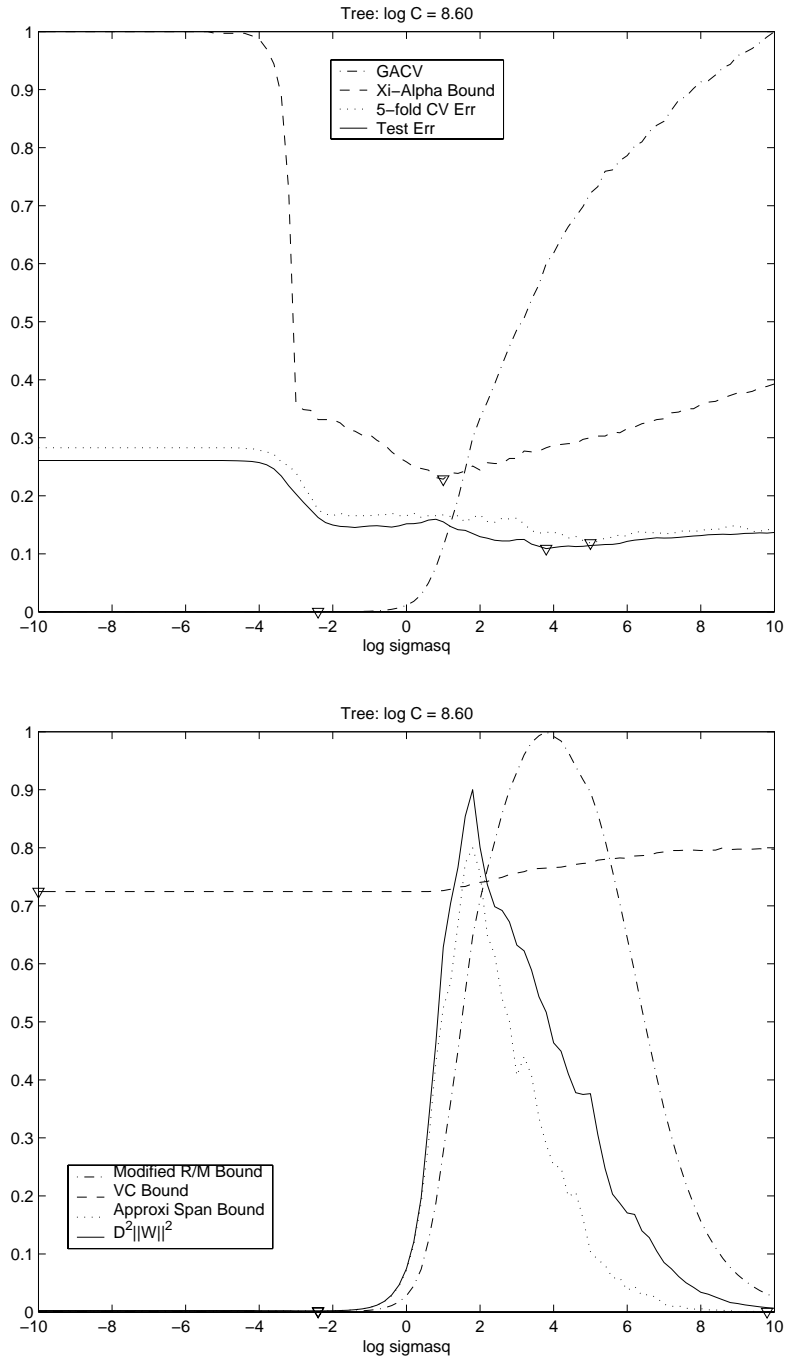


Figure 17: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and  $D^2||W||^2$  with respect to  $\sigma$  for fixed  $C$  value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and  $D^2||W||^2$ . For each curve,  $\nabla$  denotes the minimum point.

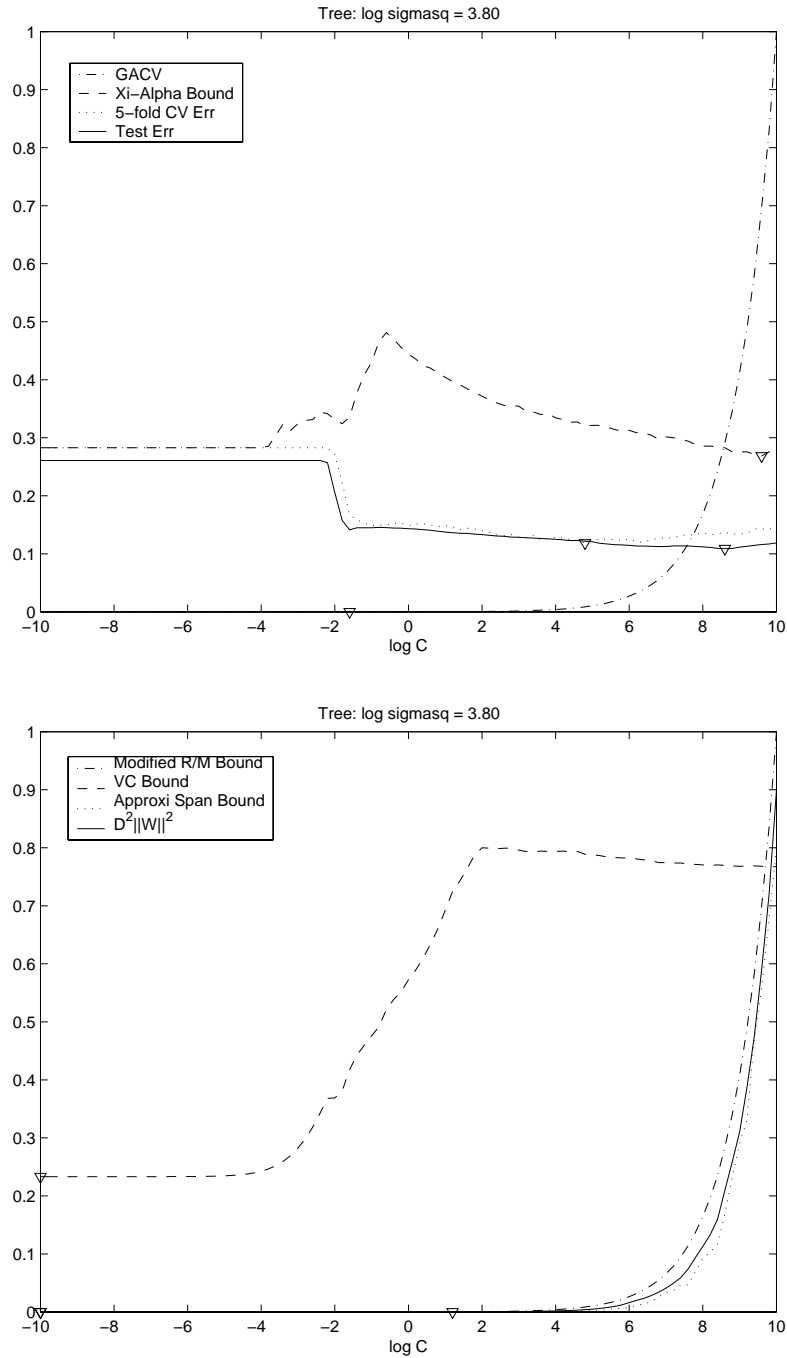


Figure 18: Variation of GACV, Xi-Alpha Bound, 5-fold CV Err, Test Err, Modified Radius-Margin Bound, VC Bound, Approximate Span Bound, and  $D^2\|w\|^2$  with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L1 soft-margin formulation. The vertical axis is normalized differently for GACV, VC Bound, Approximate Span Bound and  $D^2\|w\|^2$ . For each curve,  $\nabla$  denotes the minimum point.

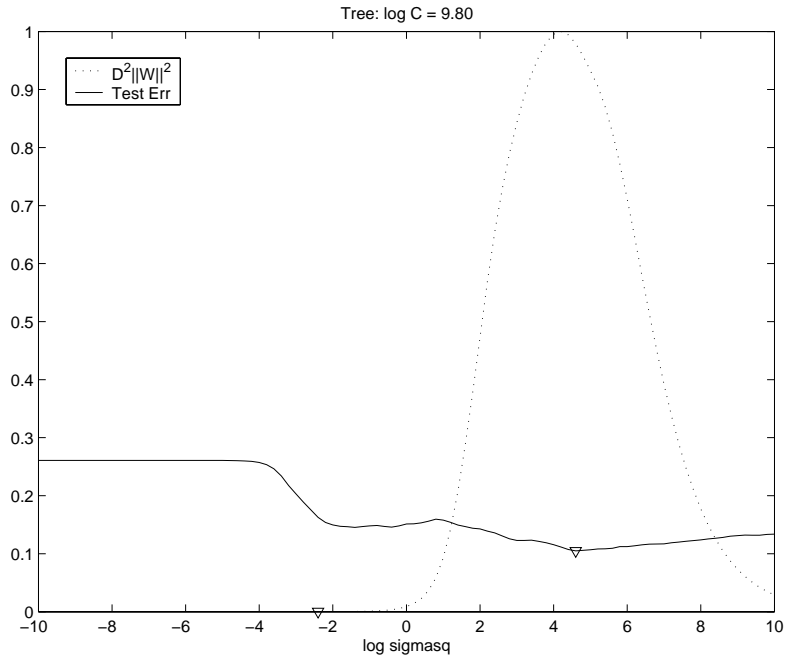


Figure 19: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $\sigma^2$  for fixed  $C$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.

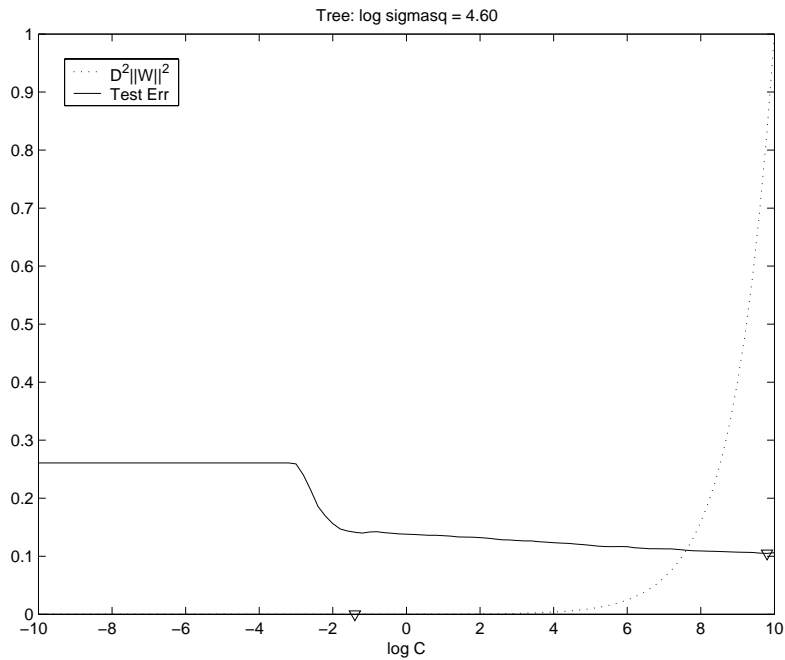


Figure 20: Variation of  $D^2\|w\|^2$  and Test Err with respect to  $C$  for fixed  $\sigma^2$  value, for SVM L2 soft-margin formulation. The vertical axis for is normalized. For each curve,  $\nabla$  denotes the minimum point.