

## LVC 2 - Glossary of Notations

$W_i$  = Residual belonging to the  $i^{th}$  record

$\sigma_i^2$  = Variance of  $W_i$  (the residual belonging to  $i^{th}$  record)

$X_i$  = A vector for  $i^{th}$  record

$\theta$  = Approximated weight vector

$\theta^*$  = Actual weight vector

$\approx$  = Approximately equal to

$X_t$  = Sample time series

$Y_t$  = The forecasted  $t^{th}$  term

$X_{i-1}$  = Time series with lag equal to 1

$U_t$  = Error term in the forecasting model

$X_{aug}$  = A set of possible vectors in  $X$  and its linear combination

$\theta^T$  = Transpose of the vector/matrix  $\theta$

$\phi(X)$  = A transformed version of the feature vector  $X$

$R^2$  = R-squared, i.e., fraction of variation in target variable that has been explained by the features

$\alpha$  = Regularization hyperparameter

$|\theta|$  = Absolute value of  $\theta$

$E$  = Expected value

$E_i$  = Error for  $i^{th}$  fold in cross validation

$P$  = Probability distribution

$g(x)$  = A function of the inputs i.e.  $x$  to estimate the weights  $\theta$

$X_i$  =  $i^{th}$  vector from the input feature vectors

$\overline{X}_i^m$  =  $i^{th}$  random record of the  $m^{th}$  sample taken from the original data set

$\hat{\theta}^i$  = Actual value of the estimate  $\hat{\theta}$  from the  $i^{th}$  sample in the bootstrap

$\hat{\theta}_{ave}$  = Average value of the estimate

$var(\hat{\theta})$  = Variance of the estimate in the bootstrapping

$se(\hat{\theta})$  = Standard error of the estimate