Chapter 3

Jerome Friedman, Trevor Hastie and Robert Tibshirani: [Regularized Paths for Generalized Linear Models via Coordinate Descent.](http://www-stat.stanford.edu/~hastie/Papers/glmnet.pdf)

We use coordinate descent to develop regularization paths for linear, logistic and multinomial regression models. Our algorithms use the lasso and "elastic net" penalties of Zou and Hastie (2005), and create the path for a grid of values of the penalty parameter lambda. The R package **glmnet**has been submitted to [CRAN](http://cran.r-project.org/)

Chapter 11

[A study of the NIPS feature selection challenge](http://web.stanford.edu/~hastie/ElemStatLearn/comp.pdf)

Chapter 14

(Witten, Tibshirani, Hastie). [A penalized matrix decomposition, with applications to sparse canonical correlation analysis and principal components.](http://www-stat.stanford.edu/~dwitten/WittenTibsHastiePMD2008.pdf) To appear, Biostatistics.

This paper proposes a novel penalized matrix decomposition. When applied to the covariance matrix, it produces a version of sparse principal components that is closely related to the methods described in the chapter. When applied to the cross-products matrix, a method for sparse canonical correlation analysis is obtained.

Robert Tibshirani (2009). [Univariate shrinkage in the Cox model for high dimensional data](http://www-stat.stanford.edu/~tibs/ftp/cus.pdf)

A simple method for predicting survival with high-dimensional features