

Least Angle Regression

Tim Hesterberg <timh@insightful.com>

Chris Fraley <fraley@insightful.com>

Research Department

Insightful Corp.

Least Angle Regression is a promising new technique for variable selection applications, offering a nice alternative to stepwise regression. It provides an explanation for the similar behavior of Lasso (L1-penalized regression) and forward stagewise regression, and provides a fast implementation of both. I'll describe work at Insightful to create an S-PLUS/R package, extending the existing "lars" package by Efron and Hastie. Extensions include the use of computationally-accurate methods, factor variables, and logistic regression. This also provides a model for other packages to work in both S-PLUS and R.

Keywords: regression, regularization, L1 penalty