

## LOADRIDGE MATLAB toolbox

Unzip the file to a directory and run the matlab:

Main functions:

Lognewtonl0f.m: L0 penalized logistic regression in generalized linear model framework

Poisnewtonl0f.m: L0 penalized Poisson regression in generalized linear model framework

L0regprimal.m: Primal implementation for L0 penalized linear regression.

L0regdual.m: Dual implementation for L0 penalized linear regression.

Utility functions:

L0glmcv.m: cross-validation function that calls the functions above. Only logistic regression is implemented. Revise the function to do Poisson and linear regression.

Logtesttt.m : test function for logistic regression. glmval.m in matlab statistics and machine learning toolbox is used for Poisson regression.

For Comparison purposes, I also implemented a l1glmppath.m for cross-validation with SCAD and MC+ penalties. The function is based on two functions glm\_maxlambda.m and glm\_and sparsereg.m adopted from the sparseReg\_toolbox\_0.01 . The toolbox can be downloaded from

<http://hua-zhou.github.io/software/sparsereg/>.

To run the MATLAB and repeat the simulation results,

type >> demo\_poisreg or

>> demo\_logcv.

You may change the sample size and feature dimension inside the demo.

The R package will come out soon!

Please contact [zhenqiu.liu@cshs.org](mailto:zhenqiu.liu@cshs.org) if you have any questions.

