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| SDS 385 Topics Summary  James Scott  Fall 2016  University of Texas at Austin | |
| Exercise 01 | Gradient Descent |
|  | Newton’s Method |
| Exercise 02 | Stochastic Gradient Descent (SGD) |
| Exercise 03 | Quasi Newton with Backtracking Line Search |
| Exercise 04 | SGD with Adagrad |
|  | SGD with Minibatch |
|  | SGD with Adagrad and Sparse Matrix Functionality in RCPP Eigen |
| Exercise 05 | LASSO & Soft Thresholding Examples |
| Exercise 06 | LASSO using Proximal Gradient Descent |
| Exercise 07 | LASSO using ADMM |
| Exercise 08 | Spatial Smoothing using ADMM & Efficient (Tansey) ADMM |
| Exercise 09 | Penalized Matrix Decomposition (Rank 1) |