Supplement Materials for "The Common-directions Method for Regularized Empirical Risk Minimization"

Po-Wei Wang B97058@CSIE.NTU.EDU.TW
Department of Computer Science
National Taiwan University
Taipei 106, Taiwan
Ching-pei Lee CHING-PEI@CS.WISC.EDU
Department of Computer Sciences
University of Wisconsin-Madison
Madison, WI 53706-1613, USA
Chih-Jen Lin CJLIN@CSIE.NTU.EDU.TW
Department of Computer Science
National Taiwan University
Taipei 106, Taiwan

Editor:

1. More Experimental Results

In the main paper, we conducted experiments on logistic regression without a bias term. In this section, we provide the results with a bias term in Figures 1-12. In general, the same trend as that in Section 6 is observed.

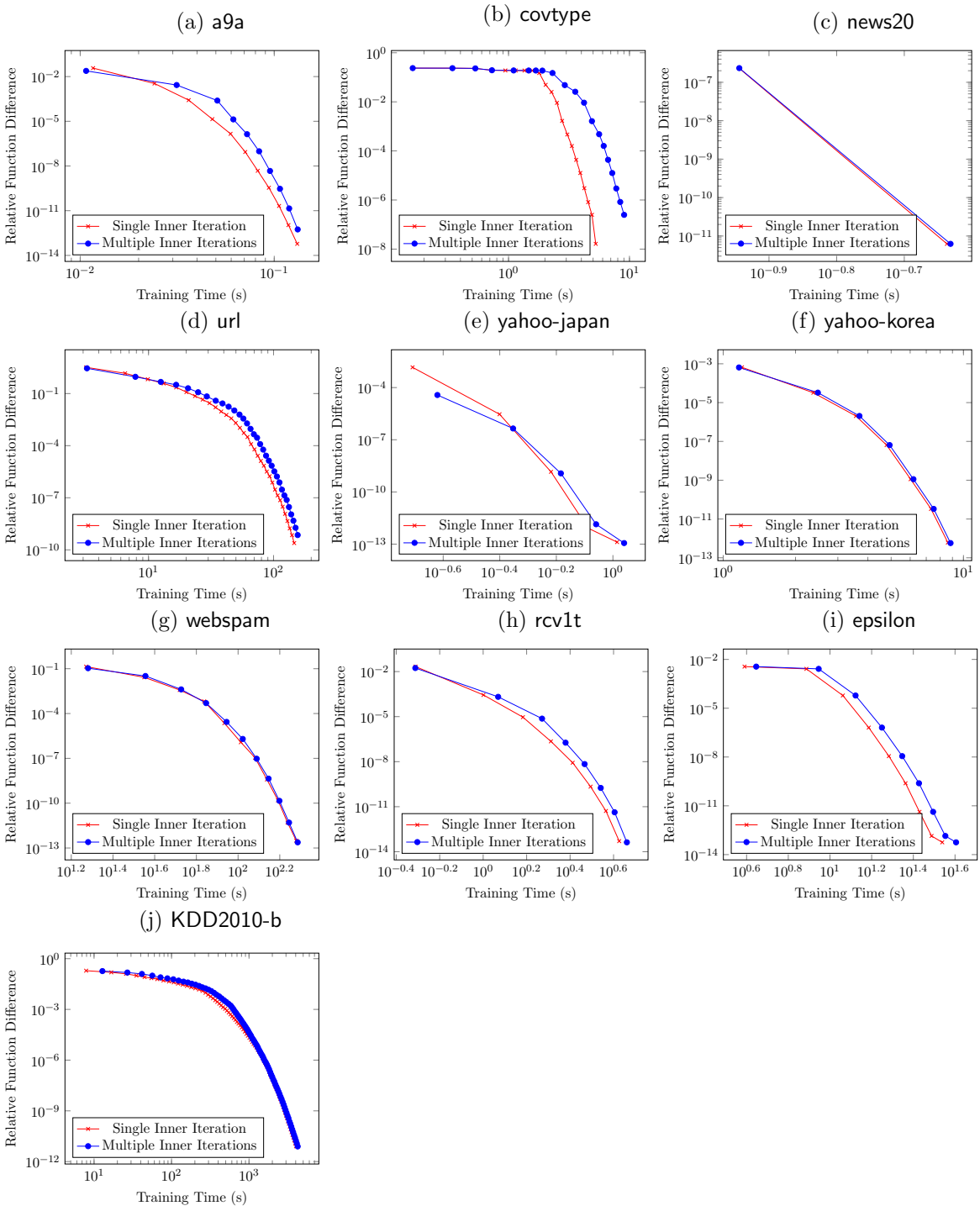

Figure 1: Comparison between single inner iteration and multiple inner iterations variants of the common-directions method. We present training time (in log scale) of logistic regression with a bias term and $C = 10^{-3}$.

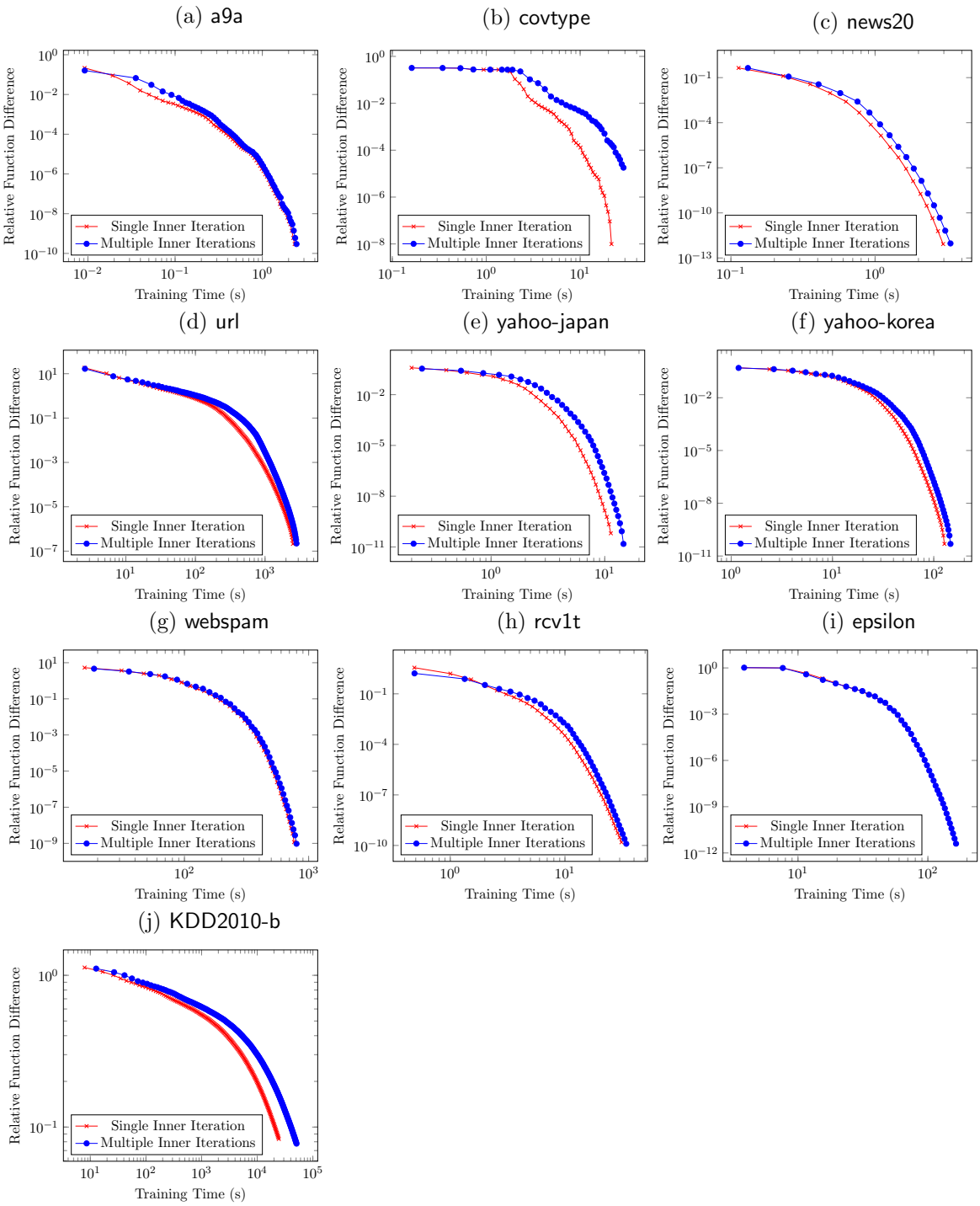

Figure 2: Comparison between single inner iteration and multiple inner iterations variants of the common-directions method. We present training time (in log scale) of logistic regression with a bias term and $C = 10^1$.

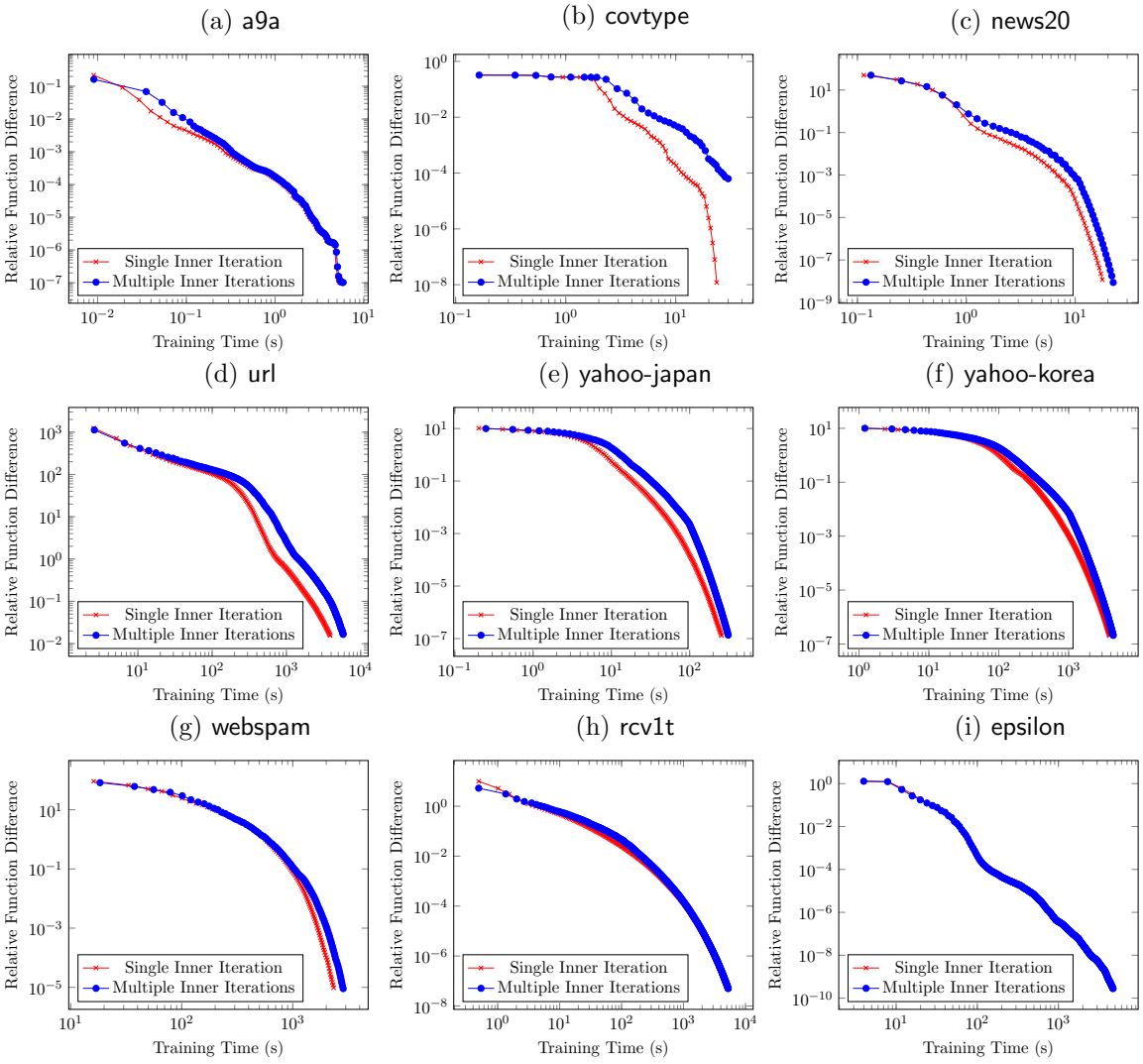

Figure 3: Comparison between single inner iteration and multiple inner iterations variants of the common-directions method. We present training time (in log scale) of logistic regression with a bias term and $C = 10^3$.

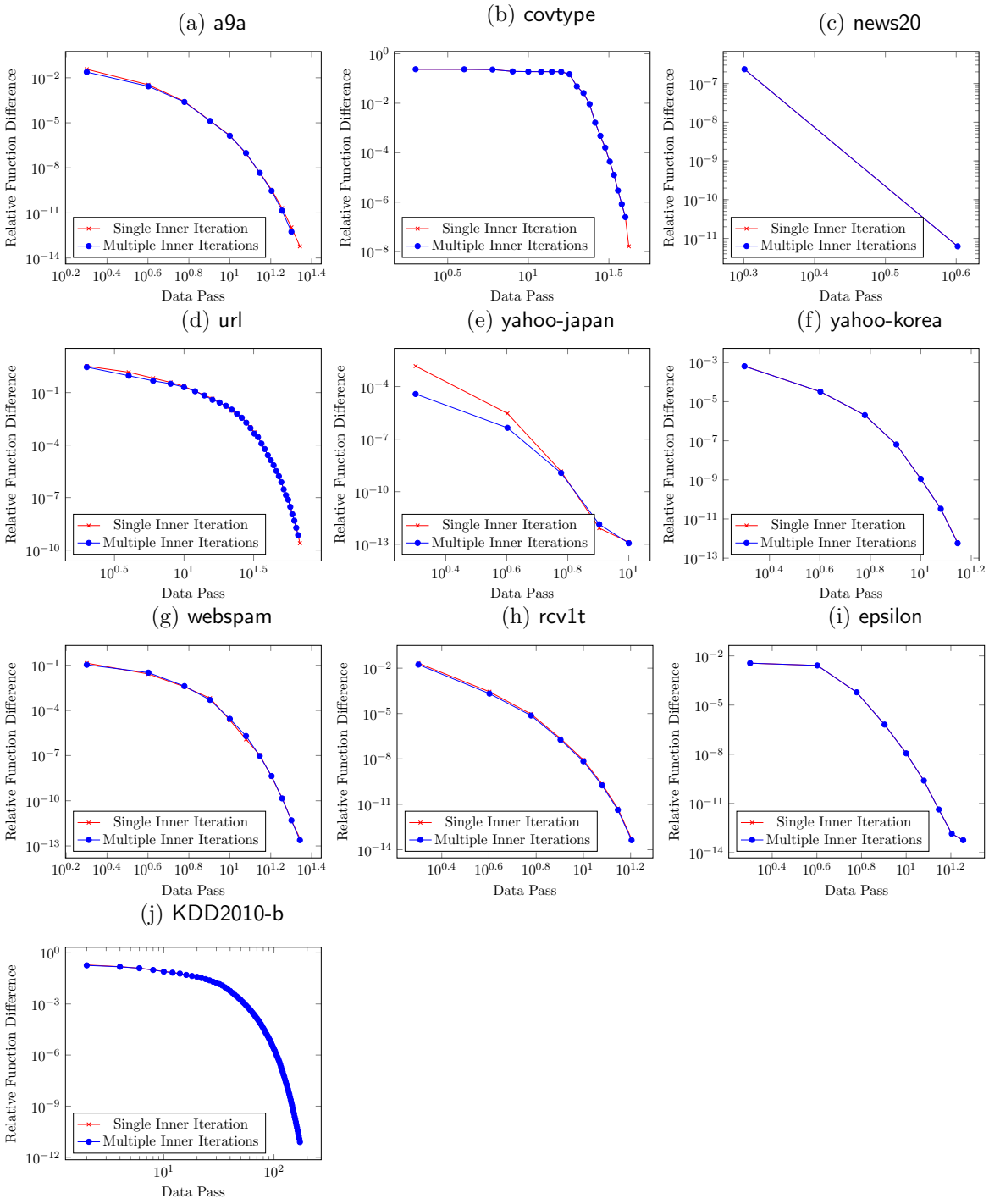

Figure 4: Comparison between single inner iteration and multiple inner iterations variants of the common-directions method. We present data passes(in log scale) of logistic regression with a bias term and $C = 10^{-3}$.

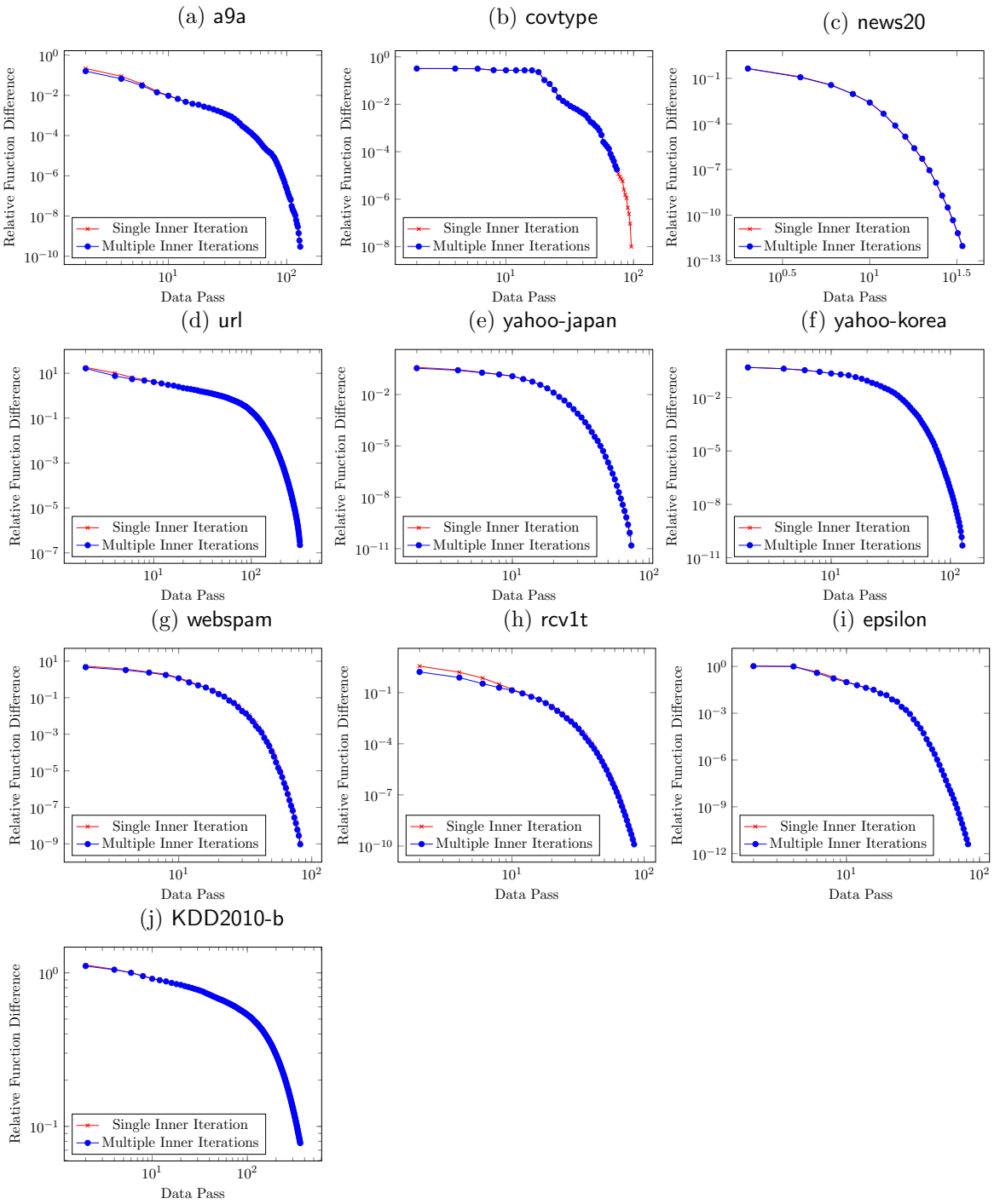

Figure 5: Comparison between single inner iteration and multiple inner iterations variants of the common-directions method. We present data passes (in log scale) of logistic regression with a bias term and $C = 10^1$.

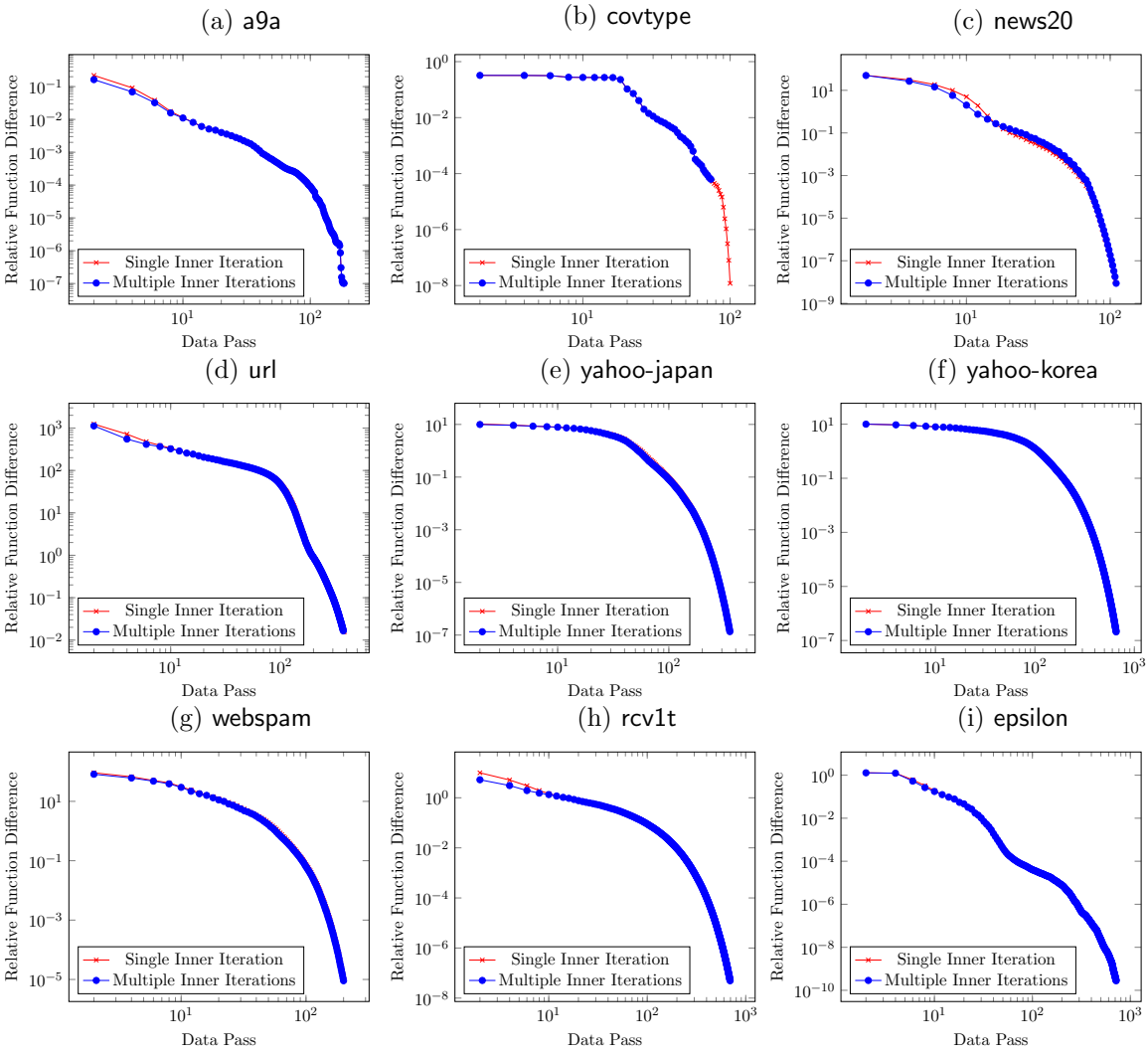

Figure 6: Comparison between single inner iteration and multiple inner iterations variants of the common-directions method. We present data passes (in log scale) of logistic regression with a bias term and $C = 10^3$.

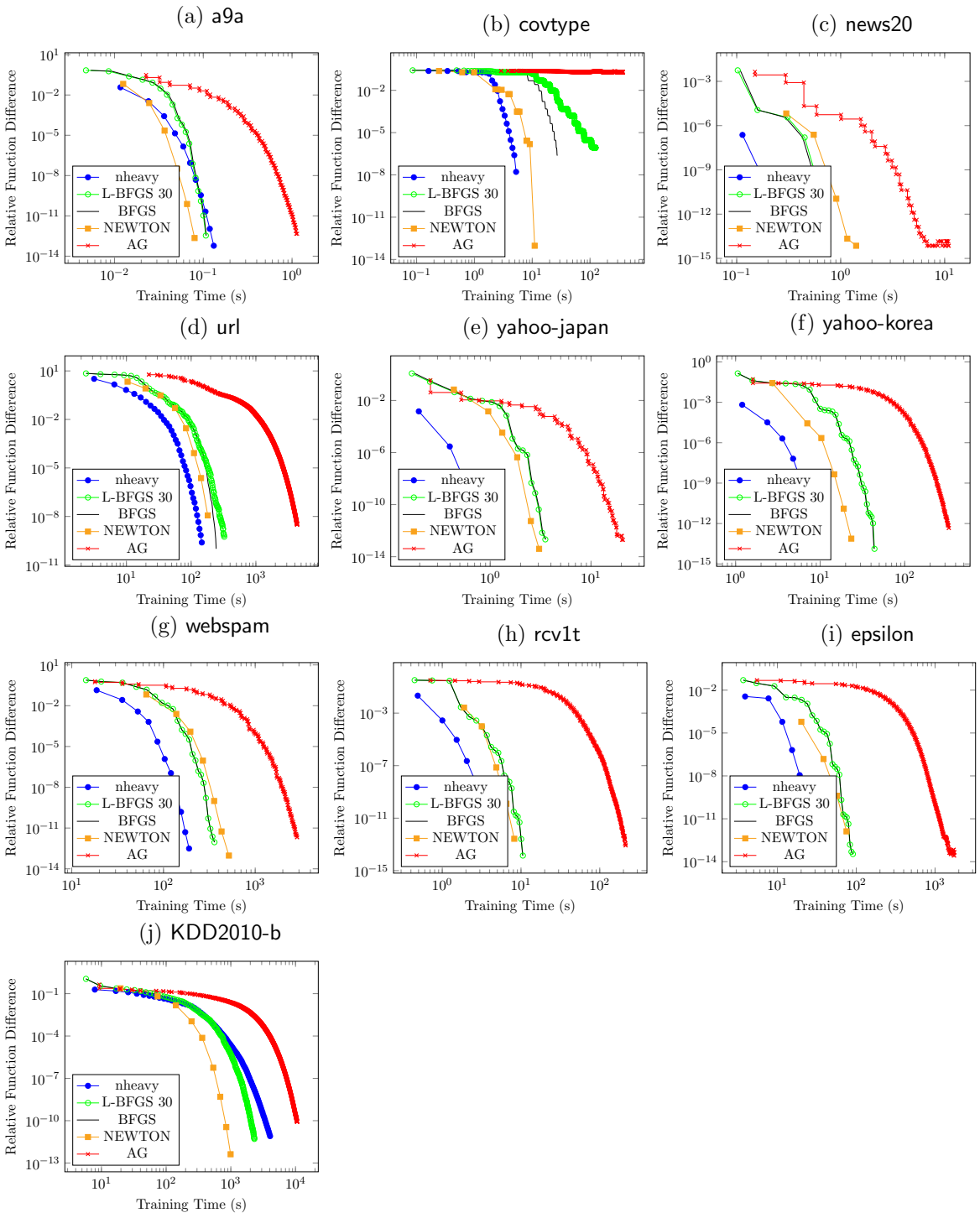

Figure 7: Training time of logistic regression with a bias term and $C = 10^{-3}$.

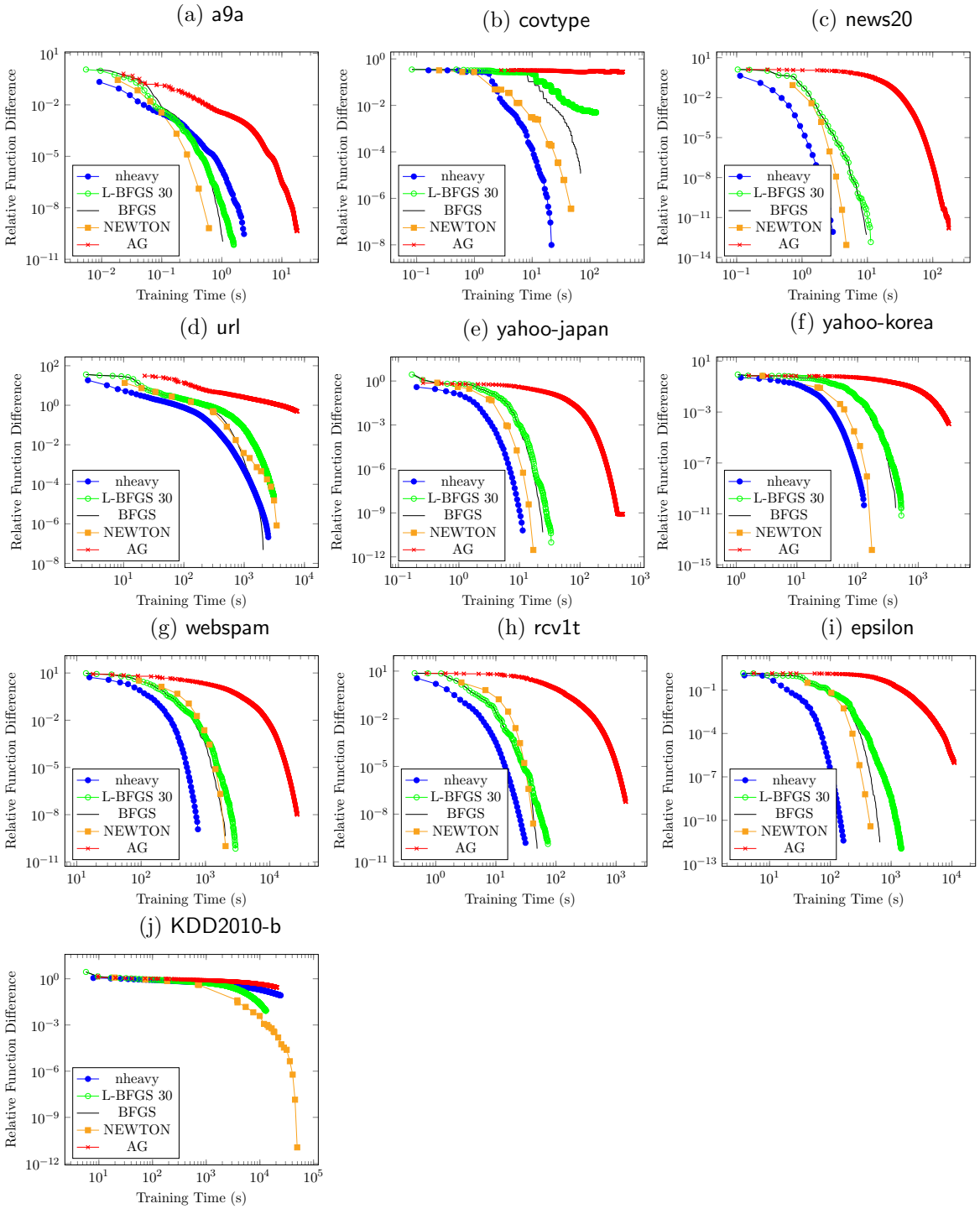

Figure 8: Training time of logistic regression with a bias term and $C = 1$.

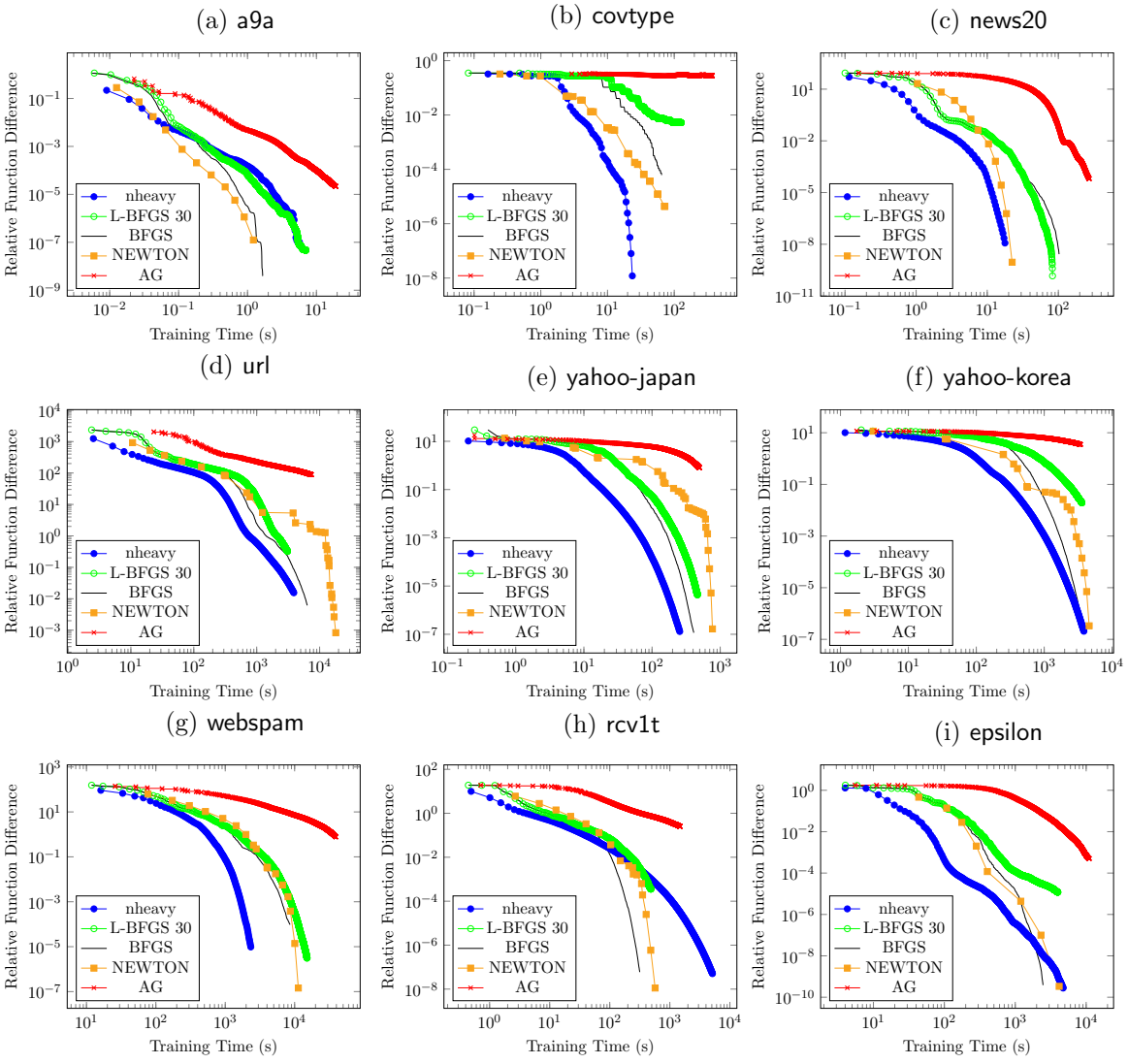

Figure 9: Training time of logistic regression with a bias term and $C = 10^3$.

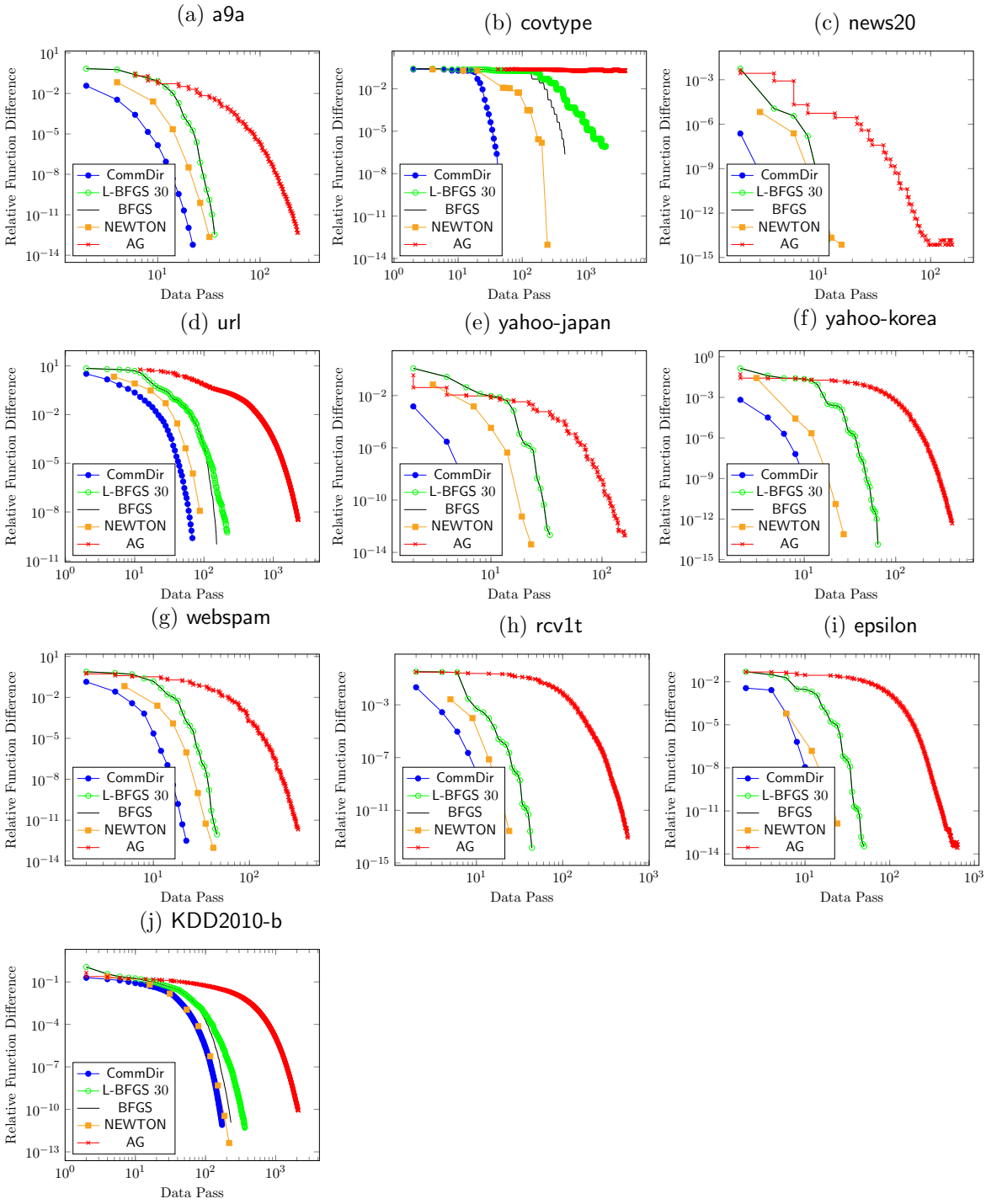

Figure 10: Number of data passes of logistic regression with a bias term and $C = 10^{-3}$.

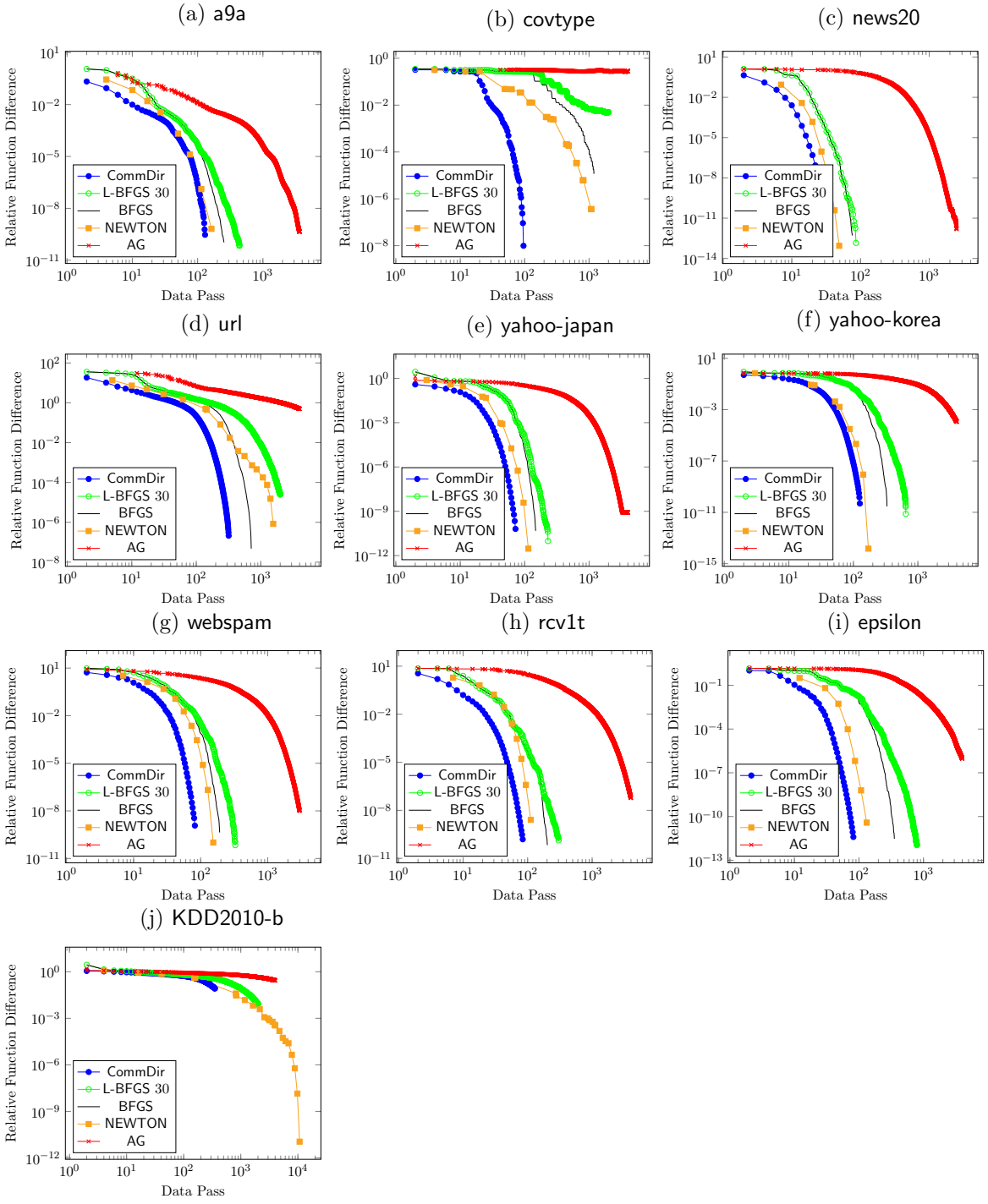

Figure 11: Number of data passes of logistic regression with a bias term and $C = 1$.

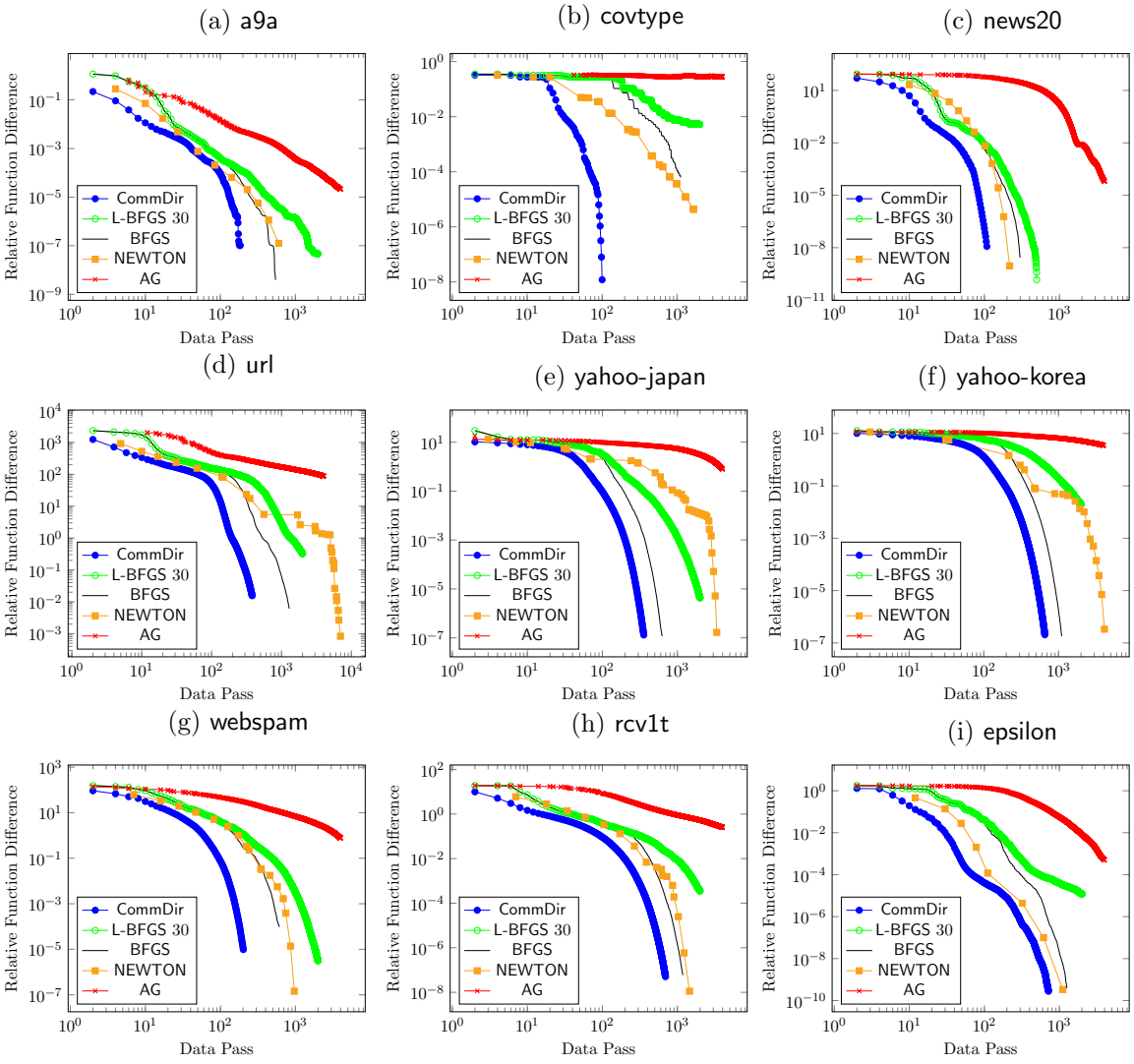

Figure 12: Number of data passes of logistic regression with a bias term and $C = 10^3$.