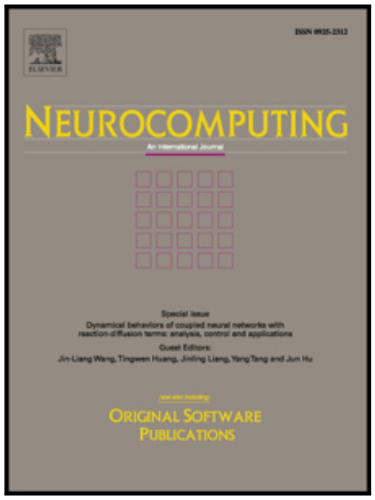
Communicated by Prof. Tianbao Yang

Accepted Manuscript



Mini-Batch algorithms with Barzilai-Borwein update step

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PII: S0925-2312(18)30738-0
DOI: 10.1016/j.neucom.2018.06.002
Reference: NEUCOM 19680

To appear in: *Neurocomputing*

Received date: 28 July 2017
Revised date: 9 May 2018
Accepted date: 4 June 2018

Please cite this article as: Zhuang Yang, Cheng Wang, Yu Zang, Jonathan Li, Mini-Batch algorithms with Barzilai-Borwein update step, *Neurocomputing* (2018), doi: 10.1016/j.neucom.2018.06.002

Highlights

- We integrate the BB update step into mS2GD, thereby obtaining a new method, mS2GD-BB.
- We prove that mS2GD-BB converges linearly in expectation for strongly convex and nonsmooth functions. We analyze the complexity of our mS2GD-BB method.
- We conduct experiments using mS2GD-BB to solve logistic regression. The experimental results demonstrate that our proposed method obtains a rapidly updated step size sequence, and achieves better performance than some state of the art methods.