Compression for Federated Random Reshuffling

A Preprint

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Abstract

FedRR is a recently developed method for federated training of supervised machine learning models via empirical risk minimization. It combines client and server-side optimization using Random Reshuffling (RR), a variant of Stochastic Gradient Descent (SGD), Local Training and Server Stepsizes. We propose integration of compression techniques in FedRR, reducing the number of communicated bits in order to overcome communication bottleneck. Furthermore we combine it with server-side updates to get improvement in theory and practice. . To the best of our knowledge, this is the first time all four of these federated learning methods are combined.

Keywords Machine Learning · Federated Learning · Random Reshuffling · Compressed Iterates

1 Introduction

2 Headings: first level

2.1 Headings: second level

3 Examples of citations, figures, tables, references

3.1 Citations

3.2 Figures

3.3 Tables

3.4 Lists

Список литературы