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Short Term Mobility Program: Final report regarding the visit of Professor Lagoa

Professor Lagoa visited the CNR-IEIT institute during the period May 5, 2014 - May 16, 2014. During the visit, we studied the problem of designing an iterative algorithm for the distributed computation of the Google PageRank. The designed algorithm is fully distributed, asynchronous and exhibits an exponential convergence rate to the true PageRank. The main idea is based on a oblique-projection, which is a modified version of the classical Kaczmarz scheme.

Several simulations testify for the very effective behavior of the algorithm, which significantly outperformed previously developed methods. The proof of convergence of the developed scheme requires the use of the theory of switching dynamical systems and it is under preparation. We are planning to write a joint paper, which will be probably submitted to the 2015 IEEE Conference on Decision and Control.

Overall, the visit of Professor Lagoa has been very productive and the obtained results of great interest for the STM Program.

Sincerely

Roberto Tempo