Advanced Control Techniques

Course Project 2018

Ordinary Least Squares

The project deals with the design and implementation of a distributed optimization algorithm in order to solve a Supervised Learning (SL) problem. In particular, the project activity includes the following tasks:

1. design a software based on Message Passing Interface (MPI) that implements the distributed gradient tracking algorithm given in [1];
2. use the software to solve a Ordinary Least Squares problem;
3. validate the results obtained through numerical tests over a given dataset.

NOTE 1: Any other information and material necessary for the project development will be given during project "meetings".

NOTE 2: The project report must be written in Latex and follow the main structure indicated in the attached template.

NOTE 3: Any email for project support must have the following subject: ACT2018 "NAME OF THE GROUP" "rest of the subject".

References

[1] G. Qu and N. Li, "Harnessing smoothness to accelerate distributed optimization," *IEEE Transactions on Control of Network Systems*, 2017.