

Choose_workers_graph

Function used to draw graph of the initial workers' choice.

Main_distributed_computing_trade_off_theory

Display the theoretical Delay-Redundancy factor curve, averaged on the workers' realizations.

main_distributed_computing_one_shot

Outer simulation file: run the Coded simulations for one specific redundancy factor and one type of scheme. If draw=1, draw graphs of the characteristics of the run (only for our scheme)

Main_distributed_computing_trade_off

Outer simulation file: run the Coded simulations for different redundancy factors Omega, and for the six possible schemes. Display trade-off figures and save the results.

Coded_Computation

Implementation of a coded computation scheme)

Draw_graphs_final

Based on a simu_desc structure (generated by « Main_distributed_computing_trade_off »), generate the graphs of the paper.

main_solution_queue_fct_with_purging

main_solution_queue_fct_no_purging

main_solution_queue_fct_gini_with_purging

main_solution_queue_fct_gini_no_purging

main_uniform_queue_fct_with_purging

main_uniform_queue_fct_no_purging

Inner simulation files: each of these functions correspond to the simulation of one of the schemes (our, genie, uniform), with or without purging. Attention: the initial workers are selected « heterogeneously » and not according to our criterion currently in the files!

optimum_split

Compute the optimum split

draw_graphs

Draw graph with the simulation characteristics (queue lengths,...) (Should only be used for the « one shot » case)

no_choose_workers

no_choose_workers_with_purging

choose_workers

Initial choice of the workers. « choose_workers » is our solution (without purging). The no_choose_workers files are those employed in order to obtain heterogeneous workers (we do not take the best workers, we take the first ones till stability & bottleneck assumptions are satisfied.)

The “choose_workers” file is not used for the moment. It can be used easily by replacing the call to the “no_choose_workers” and “no_choose_workers_with_purging” in the “main_.....” files.

purge_queues

Remove task of finished jobs from the queues

Analysis_results

Measure performance (in-order-delay, ...)

