香港中文大學 The Chinese University of Hong Kong

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FIRST IN CHANGE

Analysis and PDE Seminar

Professor Dongnam Ko

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TITLE: Convergence of the discrete consensus-based optimization algorithm with heterogeneous noises

Date : April 13rd, 2022 (Wednesday)
Time : 10am-11am (Hong Kong time)
11am-12noon (Korea time)
Link to ZOOM : https://unist-kr.zoom.us/j/3170659442
Meeting ID : 317 065 9442
Password : APDE21

Abstract. We present stochastic convergence analysis of the discrete consensus-based optimization (CBO) algorithm with random batch interactions and heterogeneous external noises, which guarantees the termination of the CBO algorithm. Despite successful performance in many practical simulations and remarkable analysis on kinetic level, the termination of the CBO algorithm was not rigorously investigated in such a generality as a discrete-time numerical algorithm. For this, we generalize the CBO algorithm with an abstract representative point, and then derive stochastic convergence of the individuals to a common point in mean-square and almost-sure sense under small noise assumption.

All are welcome

This is a joint activity organized by Department of Mathematics, The Chinese University of Hong Kong, Hong Kong; Department of Mathematics, Institute of Mathematical Research, Research Division of Mathematical and Statistical Science, The University of Hong Kong, Hong Kong; and Department of Mathematical Sciences, Ulsan National Institute of Science and Technology, Korea. More details can be found in https://hkumath.hku.hk/~imr/event/CUHK_HKU_UNIST_Analysis_and_PDE/index.php.