

THEORY OF DISTRIBUTED LEARNING

DING-XUAN ZHOU

ABSTRACT. Analyzing and processing big data has been an important and challenging task in various fields of science and technology. Distributed learning provides powerful methods for handling big data and forms an important topic in learning theory. It is based on a divide-and-conquer approach and consists of three steps: first we divide oversized data into subsets and each data subset is distributed to one individual machine, then each machine processes the distributed data subset to produce one output, finally the outputs from individual machines are combined to generate an output of the distributed learning algorithm. It is expected that a distributed learning algorithm can perform as efficiently as one big machine which could process the whole oversized data, in addition to the advantages of reducing storage and computing costs. This talk describes mathematical analysis of distributed learning.

CITY UNIVERSITY OF HONG KONG
E-mail address: mazhou@cityu.edu.hk