



THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

Seminar

Hash Function Learning
by
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Date : 30 August 2013 (Friday)
Time : 4:00p.m. – 5:00 p.m.
Venue : Room 1009, William M.W. Mong Engineering Building
The Chinese University of Hong Kong

Abstract

Hash function learning has been recently received more and more attentions in fast search for large scale data. Although many existing hashing-based methods have been developed, they are regarded as passive hashing and assume that the labelled points are provided in advance. In this talk, I would like to introduce our recent work on hash function learning, including a smart hashing update strategy and an online learning algorithm. These two models aim to achieve an effective and efficient update of hashing model.

The smart hashing update strategy (SHU) considers updating a hashing model upon gradually increased labelled data in a fast response to users. In order to get a fast response to users, SHU aims to select a small set of hash functions to relearn and only updates the corresponding hash bits of all data points. More specifically, we put forward two selection methods for performing efficient and effective update. In order to reduce the response time for acquiring a stable hashing algorithm, we also propose an accelerated method in order to further reduce interactions between users and the computer.

The online learning method gets hashing model accommodate to each new pair of data. At the same time the new updated hash model is penalized by the last learned model in order to retain important information learned in previous rounds. We also derive a tight bound for the cumulative loss of our proposed online learning algorithm.

We have evaluated our proposals on several benchmark data sets and shown their advantages.

Biography

Prof. Wei-Shi Zheng is currently an Associate Professor of Sun Yat-sen University and also a key member of Guangdong province introduced innovative computing science team. He joined the University under the one-hundred-people programme in 2011. He has been awarded the new star of science and technology of Guangzhou in 2012 and Guangdong natural science funds for distinguished young scholars in 2013.

His research direction is machine vision and intelligence learning. He is focusing on human-centred image recognition, including face recognition, person re-identification and activity recognition; and his main contributions are in developing new machine learning algorithms to address the challenges in those applications. Recently, he is interested in large scale machine learning for solving the large scale image recognition. He has now published more than 60 papers, including about 40 publications in main journals (including IEEE Trans. on PAMI) and top conferences (including ICCV, CVPR and IJCAI). He has been an area chair of IEEE AVSS 2012, and has organised / will organise three tutorial presentations in main and top conferences in computer vision along with other colleagues in the CASIA, such as ACCV 2012, ICPR 2012 and ICCV 2013.

**** ALL ARE WELCOME ****