Title:

Weak Label Learning and Applications

Abstract:

The workshop on Weak Label Learning and Applications severs as a highly selective and premier international forum for researchers to discuss the frontier issues related to weak label learning and related applications. The organizing committee is excited to invite you to take part in this workshop. This workshop will be held with the fourth International Conference on Cloud Computing and Security (ICCCS 2018), which will be held in June, 2018 at Haikou, China.

In supervised learning scenarios, all training data have their target values called labels. However, in real-world applications, sometimes it may not be possible to acquire true labels for examples, and sometimes it may be too expensive (or tedious) to acquire true labels. For example, in scientific applications, obtaining labels involves repeated experiments that may be hazardous; in drug predictions, deriving active molecules of a new drug involves expensive expertise that may not even be available. On the other hand, weakly labeled data, where the labels are incomplete, are often ubiquitous in many applications. Therefore, exploiting weakly labeled training data may help improve the performance and discover the underlying structure of data.

Indeed, weak label learning has been regarded as one of the most challenging tasks in machine learning research. There have proposed a lot of weak label learning problems. For example, crowdscourcing (multiple people label one object), semi-supervised learning (labels are partially known), noisy label learning (some labels are noisy or adverse), multi-instance learning (labels are implicitly known), clustering (labels are totally unknown), and so on.

Scope and Topics:

We invite original contributions that explore theoretical and practical issues related to weak label learning. Potential topics include, but are not limited to:

1. Theory and Algorithms
  ✧ Crowdscourcing learning
  ✧ Semi-supervised learning
  ✧ Noisy label learning
  ✧ Clustering
  ✧ Multi-instances learning

2. Methodology and Applications
  ✧ Crowdscourcing learning applications

- ✧ Semi-supervised learning applications
- ✧ Noisy label learning applications
- ✧ Clustering applications
- ✧ Multi-instances learning applications
- ✧ Weak Label Learning in Medical imaging analysis

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Victor S. Sheng received the master's degree in computer science from the University of New Brunswick, Canada, in 2003 and the PhD degree in computer science from Western University, Ontario, Canada, in 2007. He is an associate professor of computer science with the University of Central Arkansas, and the founding director of Data Analytics Lab (DAL). His research interests include data mining, machine learning, and related applications. He was an associate research scientist and NSERC postdoctoral follow in information systems in the Stern Business School, New York University. He received the best paper award runner-up from KDD'08, and the best paper award from ICDM'11. He is a PC member for a number of international conferences and a reviewer for several international journals. He is a senior member of the IEEE and a life-time member of the ACM.

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