IJCNN2023 Special Session

18-23 JUNE 2023

Domain Adaptation for Complex Situations: Theories, Algorithms and Applications

GOLD COAST CONVENTION AND EXHIBITION CENTRE, QUEENSLAND, AUSTRALIA

CALL FOR PAPERS

IJCNN is the premier international conference in the area of neural networks theory, analysis and applications.

Special Session Abstract

To design generalizable models by training data is one of the main aims of machine learning to support prediction and decision making. The success of traditional machine learning relies heavily on a strong and underlying assumption that the training data and test data are drawn from the same distribution. However, real-world problems often suffer from many different types of uncertainty such as noisy data and unstable environments, which result in that there exists a potential distribution gap between training data and test data. The distribution gap is the major reason to deteriorate the performance of traditional machine learning models. To handle the issue, domain adaptation has been studied, which aims to 1) detect the gap between training data and test data, and 2) learn a model that generalizes well on test data.

Domain adaptation is highly visible in both the machine learning theory and applications and becomes a hot direction in machine learning and artificial intelligence in recent years. Research developments in domain adaptation include homogeneous and heterogeneous domain adaptations, open-set, partial-set and universal domain adaptations, multiple source domain adaptation, source-free domain adaptation, and so on. Over the past few years, we have also witnessed compelling evidence of successful investigations on the use of domain adaptation to support real-world applications, e.g., computer version, natural language processing, privacy protection, spam filtering, credit analysis, and medical analysis. Considering these observations, it is instructive, vital, and timely to offer a unified view of the current trends and form a broad forum for the fundamental and applied research as well as the practical development of domain adaptation for improving machine learning, data science and practical decision support systems.

This special session aims to provide a forum for researchers in the domain adaptation field to share the latest advances in domain adaptation theories, algorithms, and applications, especially how domaina daptation techniques can be applied to several areas to solve more real-world prediction and decision-making problems.

IMPORTANT DATES

JANUARY 31, 2023
Paper Submission Deadline

MARCH 31, 2023
Paper Decision Notifications

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Topics

The topics of this special session include, but are not limited to, the following:

- New domain adaptation framework and theories;
- Deep learning domain adaptation;
- Adversarial learning methods for domain adaptation;
- Homogeneous and heterogeneous domain adaptations: algorithms and applications;
- Open-set, partial-set and universal domain adaptations: algorithms and applications;
- Multiple source domain adaptation: algorithms and applications;
- Weakly supervised domain adaptation: algorithms and applications;
- Domain generalization and out-of-distribution generalization for handling the robustness of domain adaptation;
- Novel algorithms and applications of source-free domain adaptation;
- Few-shot domain adaptation: algorithms and applications;
- Various demonstration and applications of domain adaptation, such as transport, industry 4.0, business intelligence, healthcare and more.

Paper Submission

Paper Submission Link:
https://2023.ijcnn.org/authors/paper-submission

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