Advances in Data Analysis and Classification (ADAC)

Theory, Methods, and Applications in Data Science
http://www.springer.com/journal/11634

Call for Papers for Special Issue on

Learning in Data Science: Theory, Methods and Applications

The journal *Advances in Data Analysis and Classification* will publish a Special Issue on "Learning in Data Science: Theory, Methods and Applications".

Recently, the interplay of disciplines involved in data science, most notably statistics and computer science has intensified. Impressive advances in statistical, deep, and machine learning (both supervised and unsupervised) have been achieved by developing and applying more and more complex methods for data, data stream, text, or image processing. They are now further developed and used in many fields of applications like, e.g., engineering, finance, genomics, industrial automation, industry 4.0, marketing, personalised medicine or health care, systems biology.

Many of these learning methods are about to make their way into real-world usage now with – in many cases and for good reasons – strict legal requirements. This has renewed the demand that methods should not only be accurate but allow the practitioner to obtain important insights about the learning process and results at hand. So, ensuring interpretability is of central importance in application domains where trust into the system is essential for its acceptance and where malfunctioning may result in legal liability.

In this Special Issue, we therefore solicit contributions that (i) describe and apply new developments in the field of deep, machine, and statistical learning, (ii) discuss and evaluate the interpretability of various types of learning methods and/or their assessment of uncertainty, (iii) use representations which are understandable by experts and even non-experts, (iv) introduce methods that can be inspected, verified, and possibly also modified by non-expert users, (v) offer explanations or visualizations of their decisions, (vi) develop methods for interpretable learning in complex domains.

The Special Issue on Learning in Data Science of the journal ADAC aims at putting together new developments in the field of statistical learning and machine learning (both supervised and unsupervised). We welcome contributions from the statistics and machine learning communities as well as from any fields of applications. A strong emphasis is put on theoretically sound methods with real-life applications and challenges.

Topics of particular interest include, but are not limited to:

- deep, machine, and statistical learning,
- interpretable machine learning and explainability,
- quantitative storytelling and visualization,
- applications to real-life problems in, e.g., engineering, finance, genomics, industrial automation, industry 4.0, marketing, personalised medicine or health care, systems biology.

Submission details: The full paper should not exceed 12 pages (A4 or Letter size with 12 point), including illustrations and tables. The front page of the manuscript must contain: a concise and informative title; the names, affiliations, postal and e-mail addresses of all authors; telephone and fax number of the corresponding author; an abstract of 8–10 lines; and 4–6 keywords which can be used for indexing purposes. Further formatting instructions are given on the journal's homepage http://www.springer.com/journal/11634.

The manuscript should be submitted electronically as a pdf file via Springer's Editorial Manager https://www.editorialmanager.com/adac/ and needs to be specified as a paper for this special issue.

Important dates:

- Submission of manuscripts: June 30, 2019 (earlier submissions are explicitly encouraged).
- Notification to authors after reviewing: August 31, 2019 (tentative).
- Final papers for the Special Issue: January 2020 (tentative).

Guest editors:

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