

MACHINE LEARNING IN HEALTH INFORMATICS AND BIOLOGICAL SYSTEMS

Aim and scope

Machine learning has become a pivotal tool to analyze biomedical and biological datasets, especially in the Big Data era. In fact, machine learning algorithms can identify hidden relationships and structures in health care data, and even take advantage of them to make accurate predictions about similar or future data instances. For example, machine learning software has been able to predict the diagnosis of tumor patients just by processing patients' clinical features, allowing scientists to save time and money compared to wet lab experiments. Computational researchers have also exploited machine learning to infer knowledge about patients by analyzing biological datasets, especially the ones featuring genetics and epigenomic traits. Data mining approaches applied to such datasets, in fact, can lead to relevant discoveries both to understand molecular biology and to gain new knowledge about patients' diseases.

Our special session on "Machine learning in health informatics and biological systems" aims at boosting these scientific fields, calling for researchers able to show the potential and the advance of machine learning algorithms to make accurate computational predictions in health care datasets and in patient-oriented biological datasets.

Topics of interest include, but are not limited to:

- ML methods applied to health care and biomedical datasets
- ML methods applied to genetics and epigenomics datasets, to understand the conditions of healthy and/or sick patients
- ML methods applied to biological datasets to understand the underlying biomolecular scenario
- ML software and tools in the health care and biological domain
- Statistical models to analyze health care, biomedical, and biological datasets
- Data mining applications in the health care and biological domain

Session chairs

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