Special Issue

Machine Learning Applications in Atlas and CMS Experiments at LHC

Message from the Guest Editors

A major aim of the physics program of the Atlas and CMS experiments is to search for signs of new physics in an immense number of collisions at CERN's Large Hadron Collider, either by finding rare signals of new particles produced among overwhelming amounts of background-originated collisions or by looking for deviations from Standard Model predictions small enough to have escaped previous detection attempts. The data collected by the LHC experiments are high-dimensional and complex, and the complexity is growing with the increase of LHC performance. The increasingly challenging experimental conditions of LHC also demand continuous advancements in reconstruction techniques and in noise rejection strategies at all levels of data taking. This Special Issue focuses on the latest research and development in machine learning application in Atlas and CMS experiments at LHC applied in the context of improving the final analysis selection, object reconstruction, object calibration, object identification, triggering, simulation, and automation. Francesco Conventi, Orso Iorio

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Deadline for manuscript submissions

closed (30 April 2023)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/81101

Applied Sciences
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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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