

**MACHINE LEARNING AND OPTIMIZATION FOR INDUSTRY AND
SOCIETY**

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ABSTRACT

The ever-evolving technology permeating different fields nowadays, keeps motivating the development of novel computational approaches in machine learning and optimization methodologies. This leads to a mutual influence in which real-world challenges push the scientific research towards new horizons and vice versa, novel methodologies can unexpectedly inspire innovative processes.

The applications of machine learning in the world of industry and society are remarkable [1]. In industry, just to name a few, autonomous driving is a very fertile field of research. When we talk about autonomous vehicle driving, we refer not only to cars, but motorcycles, drones and boats, as well. Interest in recent years has been focusing towards the algorithmic aspect of the methods, coupled with energy saving purposes, from a GreenAI [2] (Artificial Intelligence) perspective. In a more general view in many industries machine learning is massively used to predict, control and plan. In an Industry 4.0 perspective, many sectors are involved: from agriculture to food.

The aim of this session is to create a common thread between different mathematical cores and computational methods that support the advancements in the field of novel technologies applied to industry and social innovation.

REFERENCES

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