

## **Machine Learning, Algorithms and Logistics**

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Machine Learning has recently emerged as a powerful Artificial Intelligence tool able to bring substantial practical contributions in the most disparate sectors. This success is mainly due to the advances in ad-hoc computer architectures of the last few years and to the huge amount of data nowadays available.

Logistics, transportation and industrial engineering are not exempt by such a revolution. In this talk we will highlight some new developments, presenting examples where classic optimization problems arising in the aforementioned fields benefit from Machine Learning techniques.

Machine Learning methods have the ability to automatically learn and improve tasks from experience, being often able to detect patterns/properties/strategies otherwise difficult to spot. On several tasks these methods have been shown to outperform human experts.

We will present new algorithmic ideas, where classic solving methods, that follow strategies devised by humans, are hybridized with Machine Learning techniques. The resulting methods will be shown to have a great potential, especially for online optimization. Future perspectives will be finally discussed.