

Leveraging Knowledge to Design Machine Learning Despite the Lack of Industrial Data

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In recent years, considerable progress has been made in the implementation of decision support procedures based on machine learning methods through the exploitation of very large databases and the use of learning algorithms.

In the industrial environment, the databases available in research and development or in production are rarely so voluminous and the question arises as to whether in this context it is reasonable to use machine learning methods.

This talk presents research work around transfer learning and hybrid models that use knowledge from related application domains or physics to implement efficient models with an economy of data.

Several achievements in industrial collaborations will be presented that successfully use these learning models to design machine learning for industrial small data regimes and to develop powerful decision support tools even in cases where the initial data volume is limited.

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