

Title: Challenges for Reduced Order Models and Machine Learning for high-dimensional aerodynamic problems.

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Abstract: Most industrial problems are governed by many parameters, typically from tens to hundreds sometimes even thousands.

Reduced order modelling (based on reduced basis) and more recently machine learning (like deep learning) try to provide a fast and reliable query system to this high dimensional space based on assimilation of High-Fidelity data.

These methods are continuously gaining attention from the industry since they could constitute the main enabler for the digital transformation of the (corporate-wide) design process.

In this talk we will try to highlight some critical aspects of the toolchain ranging from parameter identification to data generation to prediction for real-life aerodynamic problems.