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Title: AI applied to meteorological research

Abstract

Over the past few years, AI techniques, and in particular deep learning architectures, have been widely adopted in the weather domain. Many different weather applications, such as downscaling and forecasting, have been part of this AI revolution. In this talk, after a general overview of the scientific problem and the available technologies, we will look in detail at some of the weather projects our Data Analytics team is involved in to develop deep learning models for many different applications. Indeed, thanks to the new generation of supercomputers such as Leonardo, it has become possible to develop AI models for fields such as meteorology, where the amount of data to be processed increasingly requires the use of HPC and its high computing capacities. In this presentation, we will also analyse the technical difficulties encountered in some projects and the solutions developed by our team.