

Machine Learning Activities at ECMWF: an overview

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Machine Learning (ML) is playing an increasingly significant role across ECMWF, both through hybrid approaches (helping to improve existing forecasting systems) and data-driven approaches (resulting in new models such as our data-driven forecasting system, AIFS). Within data-driven approaches, we are training from reanalysis/analysis datasets, whilst also exploring how to train models directly from observations, thus harnessing the wealth of information within them and developing a truly data-driven model.

ML is not only revolutionising our core activities but is also playing a key role in the development of the digital twins in Destination Earth. We are using ML to help us quantify uncertainty in km-scale models and to build new data-driven Earth System components which will complement the existing traditional Earth System model currently used. Furthermore, the portability of ML forecasting models offers the prospect of enhanced interactivity for users of the digital twins.

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Session Classification: Machine Learning and the AIFS