



# Attendance Certificate

## MOOC Machine Learning in Weather & Climate

**Andres Leonardo Becerra Lopez**

has successfully completed

**Tier 2 – Concepts of Machine Learning**  
(up to 12 hours)  
January – April 2023

organised by  
the European Centre for Medium-Range Weather Forecasts (ECMWF)  
in partnership with  
the International Foundation Big Data and Artificial Intelligence  
for Human Development (IFAB)

Florence Rabier  
Director General of ECMWF

Francesco Ubertini  
President of IFAB and CINECA



**Module 1: Introduction to  
Data Handling**  
up to 3 h

**Module 2: Regression and  
Decision Trees**  
up to 2 h 15 min

**Module 3: Deep Learning  
Architectures**  
up to 2 h 15 min

**Module 4: Uncertainty &  
Generative Modelling**  
up to 1 h 45 min

**Module 5: Physics-Guided  
Machine Learning**  
up to 2 h 45 min