

# The Milestone of Coherent Probabilities in the AI and Big Data pathway

Andrea Capotorti  
Univesity of Perugia - Italy

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## **Abstract**

After a review of the main contributions to AI and Expert Systems given by the so-called “subjectivist” community inspired by de Finetti opera, the tutorial will be focused on the peculiarities of the coherent approach to probabilities, both conditional or not, and how they can guide us on an original paradigm for Artificial Intelligence, Big Data analysis and Machine Learning algorithms.

Specifically, attention will be given to partial knowledge and consequent partial initial evaluations, logical (i.e. structural) constraints among events/variables; conditioning also to unexpected scenarios (formalized into the so-called “zero-layers” structure); inference through the generalized de Finetti’s theorem of previsions.

Some prototypical examples will guide during the exposition.