

# Robust Learning Methods for Uncertain Data: from Imprecision to Perspectivism

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## Abstract

The representation, quantification and management of uncertainty is a central problem in Artificial Intelligence, and particularly so in Machine Learning (ML). Among different forms of uncertainty, imprecision, that is the problem of dealing with imperfect and incomplete data, has recently attracted interest in the research community, for its implications on ML practice. The talk will focus on the problem of dealing with imprecision in ML, how to formally represent and study learning from imprecise data problems. The talk will then describe the connections between imprecision and preference modeling, discussing the relationships between uncertainty modeling and perspectivism, a recently proposed framework to manage data annotations in crowdsourcing-based ML.

## Biography

Andrea Campagner is a Tenure Track Assistant Professor at University of Milano-Bicocca. Previously, he was a Researcher at IRCSS Ospedale Galeazzi Sant’Ambrogio. His research focuses on uncertainty management, machine learning, human-AI interaction, and medical informatics. His research has received international recognition, including the EurAI Best Dissertation Award, the ACM SIGCHI Gary Marsden and IJAR Early Career Researcher awards. He is Associate Editor of the International Journal of Approximate Reasoning, International Journal of Medical Informatics and Soft Computing journal.

## Declaration on Generative AI

The author has not employed any Generative AI tools.