

# Webinar "AI in health: advantages and pitfalls"

24 February 2023 h 15:00\*

sismec

Società Italiana di Statistica Medica ed Epidemiologia Clinica

Artificial intelligence (AI) is increasingly applied to health care problems, harbouring a huge potential to analyse and combine complex datasets from different sources. Machine learning (ML) methods are at the core of AI applications. However, it is not always clear when ML is the most appropriate methodology and what are its advantages and disadvantages.

In this webinar, we will draw a comparison between the classical statistical approach and the ML approach, illustrating differences in goals, data types and measures of model quality.

We will discuss when ML can be useful and what are the most powerful ML algorithms depending on the data available. We will address the (lack of) interpretability issue affecting some ML methods and show recent progress on the topic. Finally, we will share some important pitfalls of AI arising from non-representative/biased inputs. Through real-life examples we will provide practical tips on applying AI/ML in a healthcare study and identify the most important study design elements to avoid pitfalls and ensure robust results.

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Lecturer in Computational Epidemiology and Biostatistics at Imperial College London

2017 lead analyst for the NIHR Blood & Transplant Research Unit (NIHR BTRU) in Population Health and Genomics.

In the Genetics Theme, working with the Sanger Institute and the University of Cambridge using extremely large datasets) and led an international consortium (Blood Cell Consortium).

Current research focuses on multi-omics data integration using machine learning methods with the aim of understanding the impact of internal and external exposures (i.e. the exposome) on health outcomes and with the ultimate goal of achieving better disease risk prediction.

**See link on SISMEC website**

\*Rome hour