DIPARTIMENTO
DI PSICOLOGIA
"RENZO CANESTRARI"

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

PhD Program in Psychology

Seminar "Artificial Neural Network and Machine Learning"

Prof. Mariagrazia Benassi

Department of Psychology, University of Bologna

15/05/2025, 09:00 – 13:00

Aula E, Piazza Aldo Moro, 90 Cesena

Abstract

The course Artificial Neural Network and Machine Learning consists an introduction about the application of artificial intelligence models in Psychological Research, in particular for diagnostic and therapeutic purposes. The first part of the course will cover the basics of artificial intelligence and the main differences between the different types of models that are used in psychology. In particular, artificial neural network, machine learning and reinforcement learning will be discussed. Research will be presented in which the use of the above models will be discussed from theoretical and practical perspectives. Then, the issues of ethics in the use of artificial intelligence in the psychological field and the new standards of reference with respect to the use of tools that rely on it in clinical settings will be addressed. This course is available for PhD students interested in improving their basic skills in artificial intelligence and machine learning.

Readings:

Zhou, S., Zhao, J., & Zhang, L. (2022). Application of artificial intelligence on psychological interventions and diagnosis: an overview. *Frontiers in Psychiatry*, *13*, 811665.

Wells, L., & Bednarz, T. (2021). Explainable ai and reinforcement learning—a systematic review of current approaches and trends. *Frontiers in artificial intelligence*, *4*, 550030.