Trends, Issues and Perspectives of Artificial Intelligence Systems in Archaeological Research

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Abstract:

In recent years, the development and spread of new types of Artificial Intelligence (AI) algorithms have stimulated the interest and creativity of archaeologists, but also revived old debates in new guises.

Current AI systems tend to overdo autonomously the processes of data integration and normalisation, thereby imposing interpretative biases and risking the integrity of the research. The situation is further complicated by the so-called “black box” problem, whereby users possess only limited understanding and control over the internal mechanisms of the models. This challenge is all the more relevant as the development of AI has increasingly shifted from academic institutions to large corporations.

With awareness of the various issues and risks associated with the use of AI, archaeologists have always approached it with caution and wise scepticism. A critical debate on the use of new generations of AI in archaeology is already underway and involves new reflections on Big Data and its use, as well as on the concept of data or capta and the growing importance of being able to reuse data from past research. It is certainly still extremely important to prevent AI systems in archaeology from creating new and wider gaps between scholars who systematically use quantitative and digital tools and methods, and those who are less familiar with them.

The aim of this session is to stimulate critical reflections on the present and future of AI in archaeology, with particular emphasis on its theoretical and methodological implications. We invite contributions that may include case studies, methodological discussions, or theoretical analyses, as well as reflections on the history of research and the reuse of legacy datasets. The session encourages a variety of perspectives in order to promote dialogue between different approaches and to explore how AI may transform archaeological practices in the years to come.