Editorial: Application of artificial intelligence in environmental, agriculture and earth sciences

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Editorial on the Research Topic
Application of artificial intelligence in environmental, agriculture and earth sciences

Integrating artificial intelligence (AI) into environmental, agricultural, and earth sciences heralds a new era of innovation. This Research Topic unveils the transformative role of AI in addressing some of the most pressing challenges in these domains.

Some skeptics argue that AI's role in these fields is overrated, potentially leading to an over-dependence on technology and the overshadowing of traditional methods. Concerns about losing human insight and ethical considerations in data handling are also raised.

While acknowledging the importance of traditional methods, the complexity of today's environmental and agricultural challenges necessitates advanced solutions. AI enhances, rather than replaces, human expertise. Critics often overlook the synergy between AI and human skills, which is crucial for innovative problem-solving.

Each paper in this Research Topic exemplifies AI's potent role. For instance, the paper Mamat et al. demonstrates how AI can refine water quality analysis, surpassing traditional analytical limits. The Hu et al. study illustrates AI's capability to fill data gaps essential for understanding global climate patterns. Similarly, Guo et al. shows AI's precision in agriculture, enhancing crop yields and quality. Li et al. highlights AI's application in aquaculture, improving fishery resource management. Finally, the research on Li and Feng underlines AI's role in balancing ecological and developmental goals.

In conclusion, AI in environmental, agriculture, and Earth sciences is not merely a technological leap; it is an essential step towards a sustainable future. These studies demonstrate AI's capacity to work alongside human expertise, offering innovative solutions to complex challenges. As we navigate the intricacies of our planet's needs, AI emerges not as a competitor but as a crucial ally in our journey toward sustainability and ecological balance.

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