

STM publishers' innovations support the development of Artificial Intelligence and Machine Learning

Advances in computing power and algorithms have made artificial intelligence (AI) a practical reality. Intelligent technology will one day be ubiquitous within the academic and professional publishing sector, and help to develop new tools for deep learning, allow the industry to navigate digital transformations, and open up new business models.

The International Association of Scientific, Technical and Medical Publishers (STM) supports further collaborative work to ensure that all stakeholders within the scholarly publishing industry benefit from the great potential of AI.

Science is undergoing a transformation in how published information is used and consumed. Because academic and professional publishers are engaged in publishing quality, curated information in order to advance science and learning, they are also at the forefront of developing and using new technologies to make the work they publish accessible and discoverable.

In addition to providing knowledge to researchers, published materials can now be used as training data for machine learning in developing AI products. Books, journals and databases can help to train machines to diagnose disease, predict weather patterns, and develop new applications for drugs, and these products are commercially available.

AI and machine learning have the potential to radically speed up operations and increase the efficiency of the STM publishing sector. Existing AI-based technologies have already been developed or acquired by publishers to:

- Assist with the identification of peer reviewers
- Identify and combat plagiarism
- Recognise fabricated data
- Bolster the decision-making process behind the acceptance and rejection of papers

Albeit that the development and deployment of intelligent technology is still very much in its infancy, AI has a longer-term potential to significantly add value to the academic and professional publishing sector, whilst also helping to increase the reach, credibility and trustworthiness of published science.

Publishers are already meeting the needs of the AI era, by developing tools, services and platforms that support and enhance machine learning. STM's members are at the forefront of digital innovation, providing stored and organised information, tagging and enriching content and creating ontologies. All of these advancements, together with the accuracy of the scientific record maintained by science and academic publishers, help to ensure that machine learning has both depth and accuracy. Likewise, the wide array of licenses offered by publishers ensures that there are ample, accessible materials available for the continued training of both people *and* machines.

As we enter the AI era, STM calls on publishers to not only utilise machine learning to automate and rationalise their internal processes, but also to ensure that their content supports the next generation of AI development. Taking up this challenge, STM's members will have an ever-increasing number of products and services on offer to make their content available, so that high-quality and accurate content sets can be used as training data in machine learning under various licensing schemes. The availability and accessibility of high-quality training data is vital for empowering AI developers with the licensed materials required to achieve both deep learning and to unlock the great potential of AI.

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