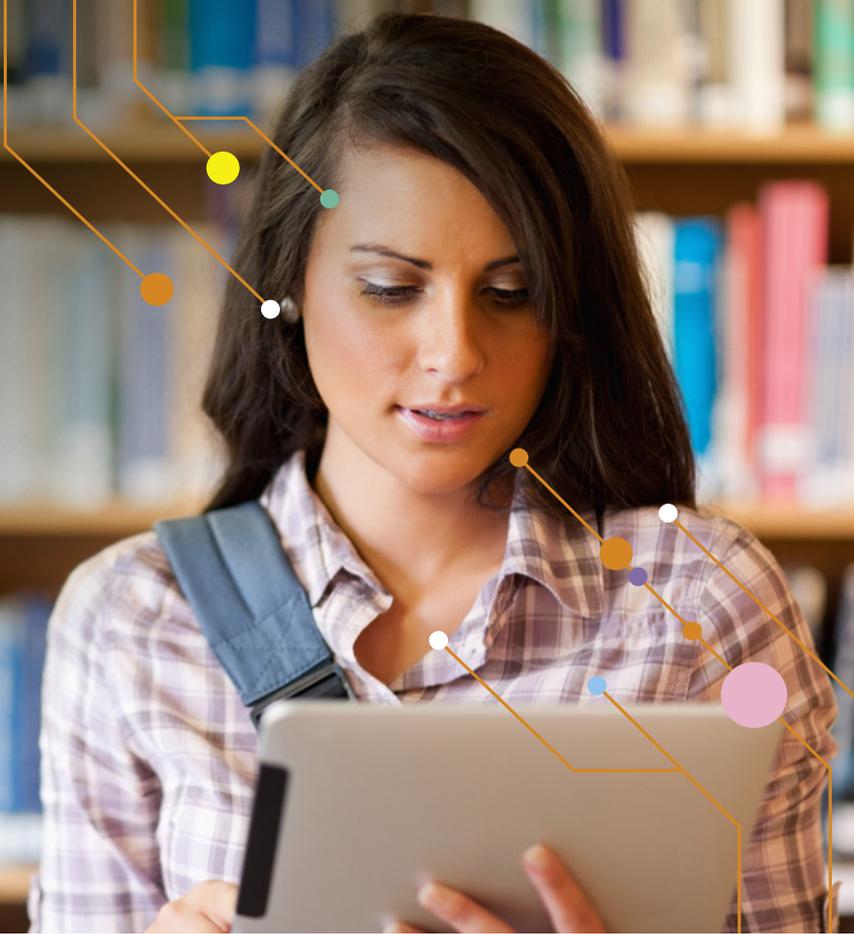


A responsible AI model for academia

Building ethical principles in artificial intelligence (AI)



AI is transforming the way academic institutions teach and faculties carry out research. But there are several central issues around the use of AI in education.

These include privacy concerns on collecting large amounts of data on student competencies. There is also the potential for bias, both conscious and unconscious that could negatively impact on results and so forth. There are also worries about the quality of data being used; data that is poorly measured or fake can produce inaccurate results and create a dangerous platform for decision making.

Both supervised and unsupervised learning have their limitations. With supervised learning, the training data set must be truly representative of the task required; if not, the AI will exhibit bias notes a report by the European Parliament.¹ Unsupervised learning models are promising but computationally complex and always need qualified human intervention to tune and validate the output.

Many machine-learning models in education are built from human-generated data. But these models only predict what they have been trained to predict. Human biases can easily result in computational biases in training data unless developers recognize this and counteract them.

AI ethics provides the moral principles and guardrails governance to inform the development and responsible utilization of AI.

Putting the ethical AI foundations in place

IDC's research shows that AI initiatives hold enormous value for educational and research initiatives. The Institute for Ethical AI in Education, a research program at the University of Buckingham in the UK, believes that AI can combat many entrenched issues facing education systems and learners, from what it refers to as a narrow and shallow curriculum to deep-seated social immobility. But there is a caveat: students and teachers must be protected from the risks that unethical AI could bring to education.

The Institute for Ethical AI in Education maintains that leaders and practitioners in educational settings must ensure that students and researchers benefit optimally from AI. At the same time, being protected against its risks has the final say over which resources are used. Professor Rose Luckin, one of the lead professors on the program, said ethics "must be designed in" to every aspect of AI for use in education, from the moment of its inception to the point of its first use." In addition, data must be clean and consistent.



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Guardrails required

Currently, there are no universal or national frameworks for the use of AI in Academia. Formal regulations are being proposed, however. The United Nations Educational, Scientific and Cultural Organization (UNESCO) is looking at a global framework for AI that will address problems around transparency, accountability, and privacy and contain policy chapters on education. In addition, the European Commission has called for experts to discuss AI's role in education and its ethical implications. The group will aid the Commission's directorate in preparing practical guidelines for practitioners with robust practices on the ethical implications of AI in Academia.

Here are 5 points to consider when adopting AI for academic programs:

- 1** With the frameworks above work-in-progress, it is critical academic institutions put in place an AI ethics committee to keep control of AI initiatives and establish trust in AI tools with both internal and external stakeholders. The committee can create a roadmap for AI and identify key decisions that need to be made. What type of expertise is needed for example and what governance and standards need to be set.
- 2** It is paramount to have clear ethical and governance frameworks established to ensure AI solutions comply with legal requirements such as GDPR, for example.
- 3** AI can help reduce bias, but it can also bake in and scale up bias, points out McKinsey. According to the management consultancy firm, underlying data quality rather than algorithms tend to be the main source of the issue. An essential step is pre-processing data, not only for maintaining as much accuracy as possible, but also to avoid bias and non optimal data.
- 4** The effectiveness of AI relies on the quality of the data being processed. You must make sure there are no leaks in data processes that will contaminate data. The data also needs to be complete with no inconsistencies or results will be inaccurate or weak.
- 5** Build infrastructure and analytics capabilities from the start. It takes a large amount of data to feed AI and develop machine learning algorithms.

ModelArts: An efficient, easy to use AI platform

AI platforms may look similar at first sight but dive deeper, and they are very different. They can be complex and time-consuming, for example.

ModelArts is the AI development platform on the Orange Business Services public cloud: Flexible Engine. It has been created as a platform that adapts to all levels of expertise and is ideally suited for research and education. It allows you to develop your AI models for all your use cases: tabular data, image, video, voice, object detection, scoring, recommendations, and exception detection.

Sources:

1. European Parliament: The Ethics of artificial intelligence – issues and initiatives 2020.



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