# Article information:

Explainable Artificial Intelligence in education - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S2666920X22000297>

# Article summary:

1. XAI (Explainable AI) is needed in education to increase trust and transparency in AI systems used for personalized teaching and learning.

2. XAI-ED framework proposes six key aspects for studying, designing, and developing educational AI tools: stakeholders, benefits, approaches for presenting explanations, widely used classes of AI models, human-centered designs of the AI interfaces, and potential pitfalls of providing explanations within education.

3. XAI has the potential to assist learners' metacognitive processes of self-monitoring, reflection, and planning but also poses distinctive challenges due to noisy learning data and the importance of giving learners agency and responsibility for their own learning.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章提出了在教育领域中使用可解释人工智能（XAI）的必要性和重要性，并提供了一个框架来研究和开发教育AI工具。然而，该文章存在一些潜在的偏见和不足之处。

首先，该文章没有充分探讨XAI可能带来的风险和负面影响。虽然提到了AI系统可能会引入误导或鼓励学生玩弄系统等问题，但并未深入探讨这些问题可能对学生造成的实际影响。此外，该文章也没有考虑到XAI本身可能会带来新的隐私和安全问题。

其次，该文章似乎过于强调了XAI在教育领域中的优点和必要性，而忽略了其他可能的解决方案。例如，在保护学生隐私方面，可以采用匿名化数据或使用加密技术等方法来保护学生数据。

此外，该文章还存在一些片面报道和缺失考虑点的情况。例如，在介绍个性化教学系统时，只提到了它们已经被广泛应用并且有效性得到证明，但并未提及它们可能存在的局限性或负面影响。

最后，该文章提出了一些主张，但缺乏充分的证据来支持这些主张。例如，在介绍XAI-ED框架时，该文章提到了六个关键方面，但并未提供足够的数据或案例来证明这些方面的重要性和有效性。

总之，虽然该文章提出了一些有价值的观点和框架，但它也存在一些潜在的偏见和不足之处。为了更全面地探讨XAI在教育领域中的应用和影响，需要进一步研究和讨论。

# Topics for further research:

* Risks and negative impacts of XAI in education
* Alternative solutions for protecting student privacy
* Limitations and negative effects of personalized learning systems
* Biased reporting and missing considerations in the article
* Lack of evidence to support the claims made in the article
* Further research and discussion needed on XAI in education

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