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Physics learning promoting culture and addressing societal issues

Contribution ID: **211** Type: **Invited talk**

Challenges in AI-generated physics education

Monday 3 July 2023 11:40 (1 hour)

Artificial Intelligence (AI) is one of the fastest-growing fields dealing with understanding and building intelligent machines that can compute how to act effectively and safely in a diversity of novel challenges. Today, generative AI is applied in a varied collection of applications, from creating art to helping in education and improving healthcare. Generative AI has the potential to bridge the gap between the current state of knowledge and the knowledge of graduates by generating educational content that is tailored to the needs and interests of individual learners. Generative AI can form personalized learning paths for students on their learning history and preferences, can generate simulations and scenarios that simulate real-world situations, or can help to analyze big data and identify patterns and hidden information that are difficult to detect by humans. Automated AI assessment, machine learning, or learning analytics can boost the learning and instruction quality in STEM education. Several types of AI applications in STEM education were investigated, for example, educational programming or social robots, intelligent tutoring systems, student behavior detection, learning prediction, automation, or AI textbooks. The applications of AI in innovative physics education can enhance the experience for both students and teachers. For example, the visualization and evaluation techniques can help to find hidden patterns in the students'solutions which allow to prevent student mistakes or misconceptions. We present an example of the application of AI in innovative physics education with the help of several machine learning methods and algorithms.

How would you like to present your contribution?

Live in Košice (time slot to be allotted based on the programme)

Target education level (primary)

Upper-secondary education

Target education level (secondary, optional)

University education

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Session Classification: Plenary talk