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## Transformers for particle colliders analyses

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The Transformer network, originally introduced for online language translation, has recently achieved remarkable success, particularly with the emergence of the GPT family. In this talk, I will explore how Transformer architectures can be adapted for analyses in particle colliders. At the core of Transformer models lies the attention mechanism. I will review various types of attention mechanisms, including self-attention, cross-attention, and sparse attention. Finally, I will discuss how different AI interpretability techniques can be applied to gain insight into the model decision-making process, effectively transforming machine learning from a “black box” into a more transparent “white box” system.

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