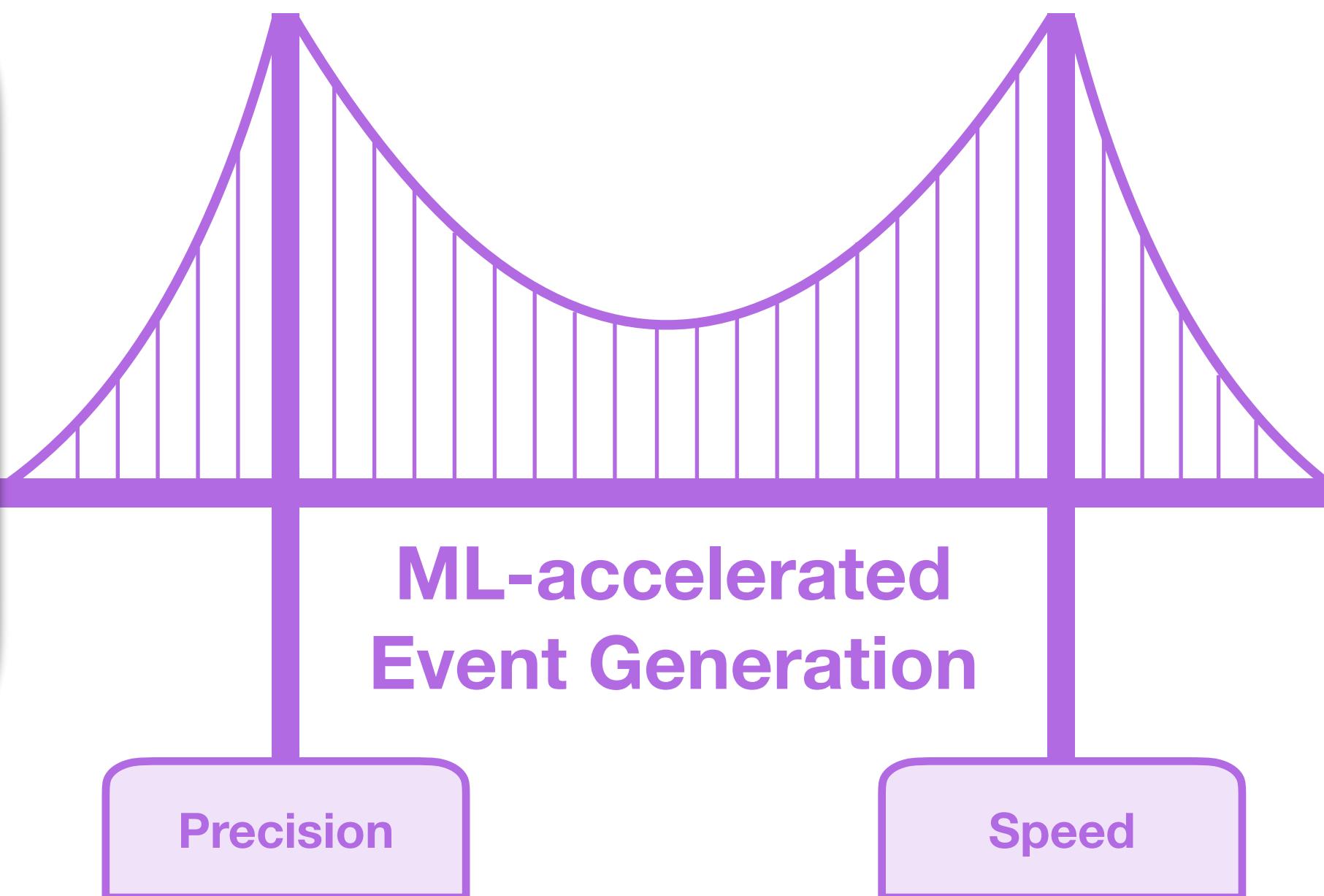


Ultrafast Precision Simulations for HEP

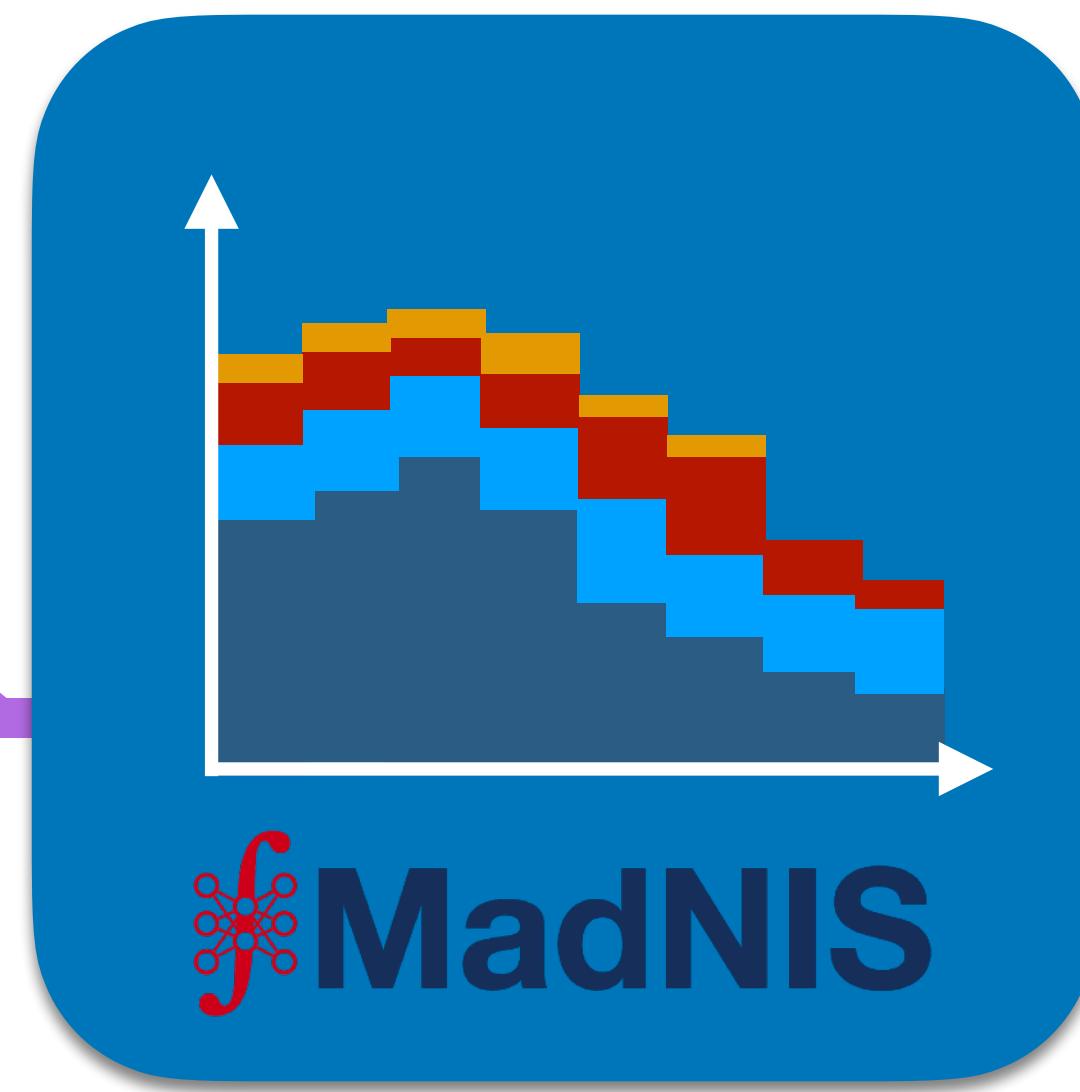
Towards the first ML event generator

Theory

$$\mathcal{L} = \frac{1}{4} F^{\mu\nu} F_{\mu\nu} + \dots$$



MC Samples

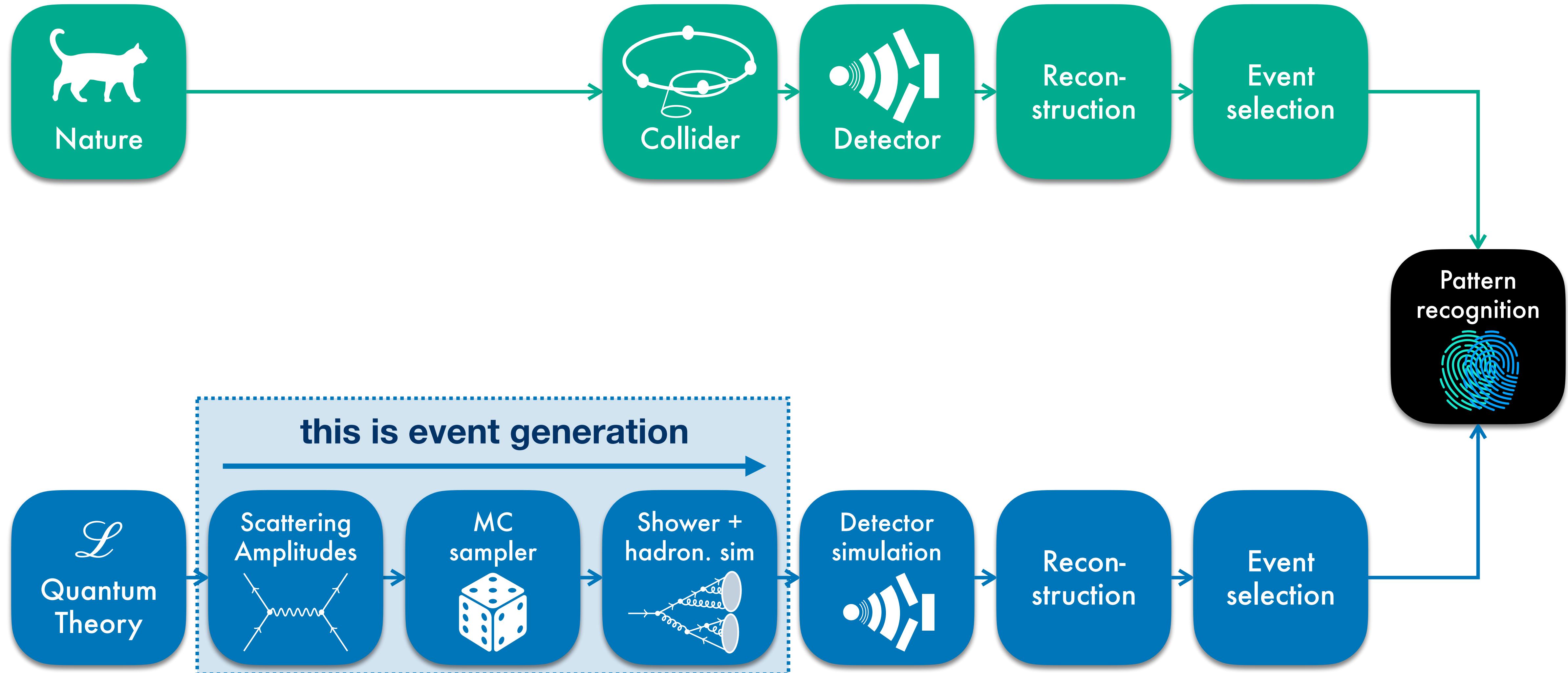


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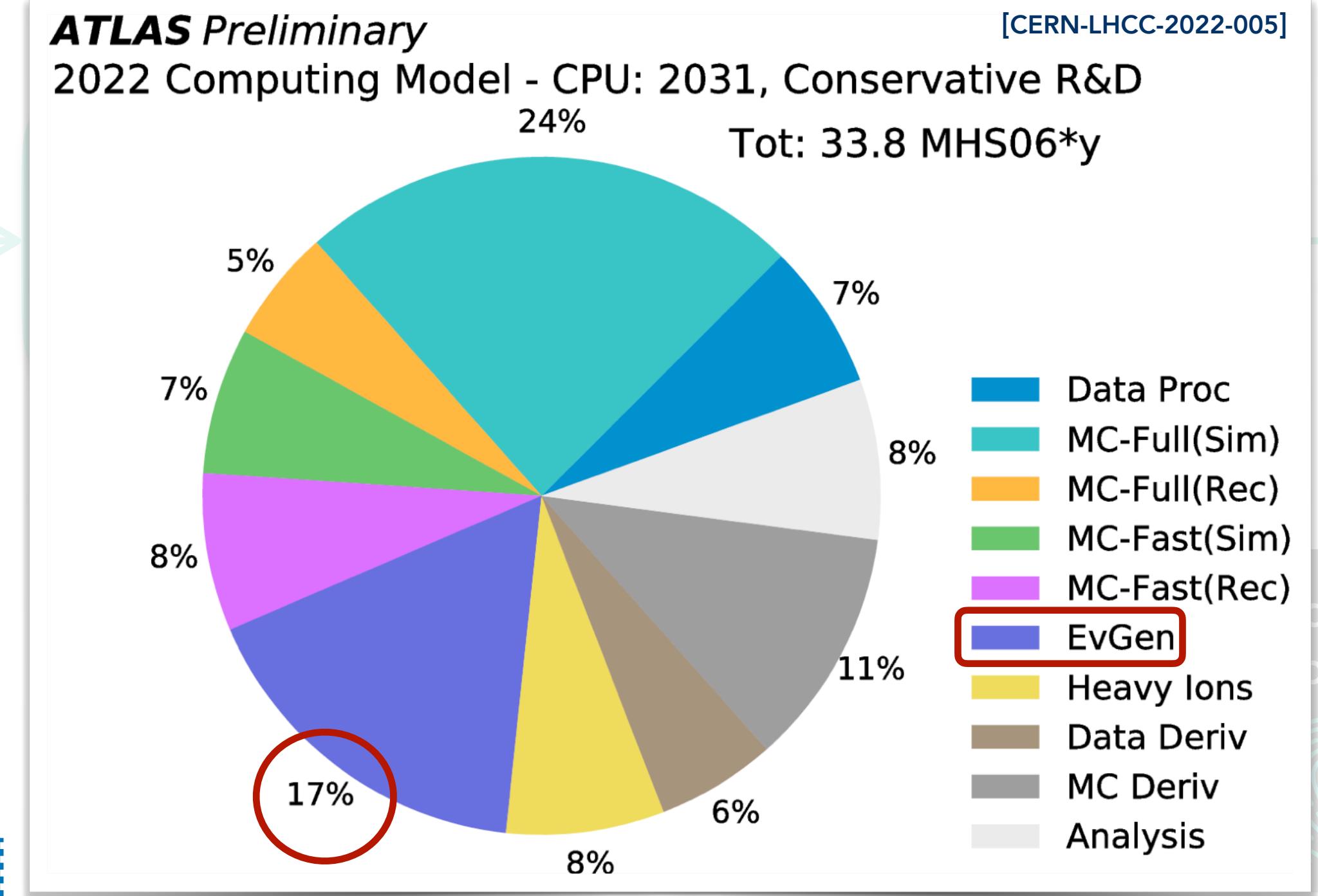
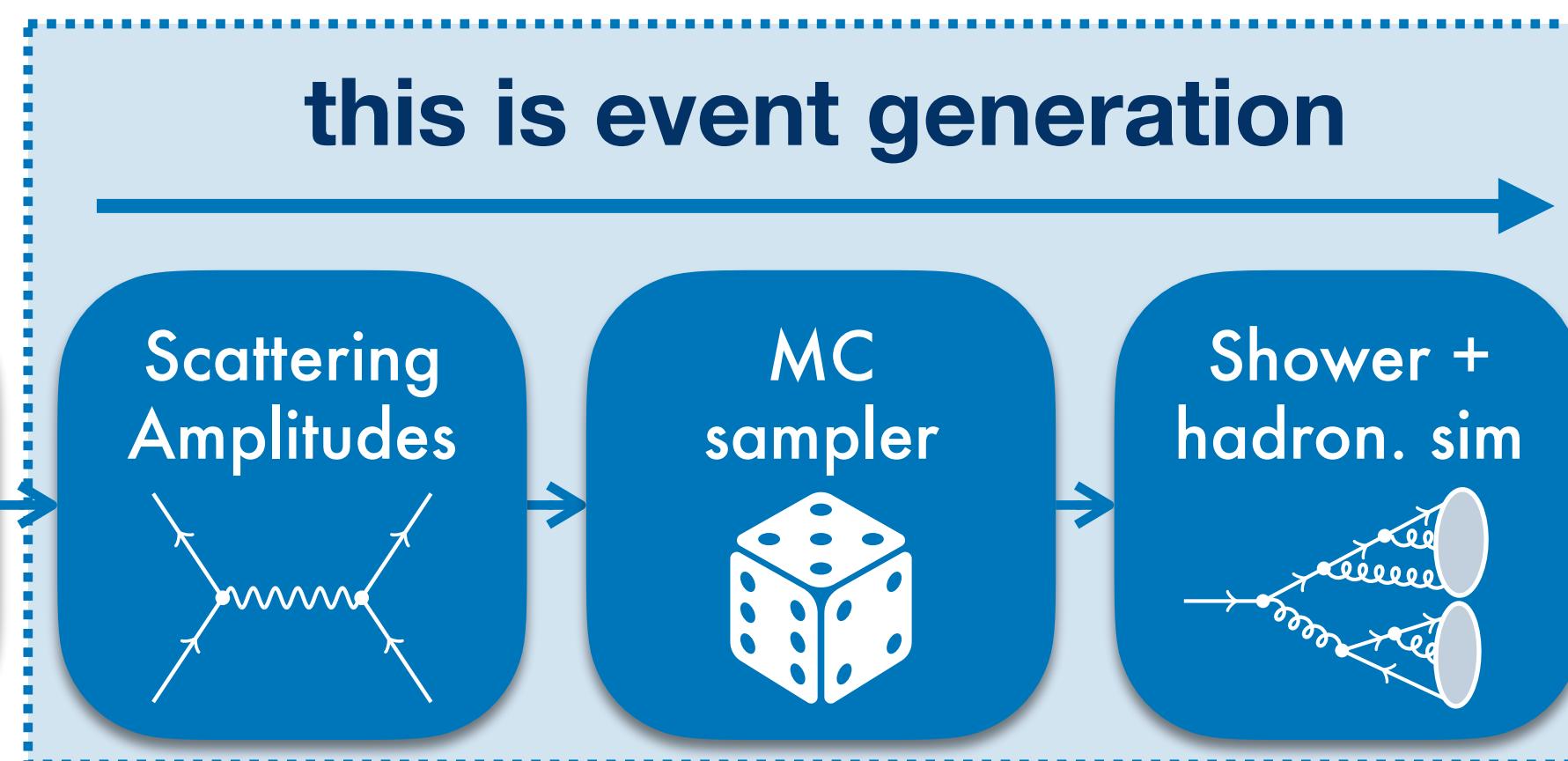
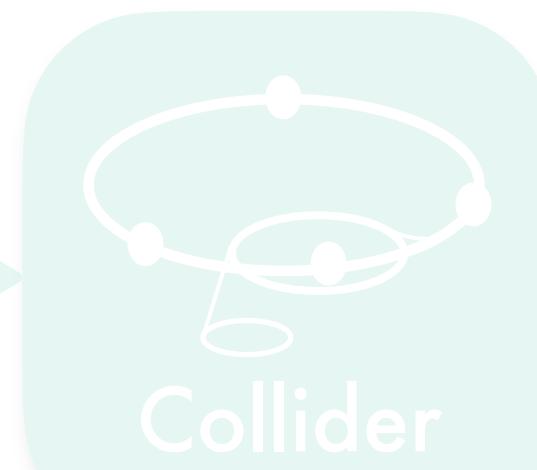


DIG-UM Annual Meeting 2025
Ramon Winterhalder

Collider analysis in a nutshell



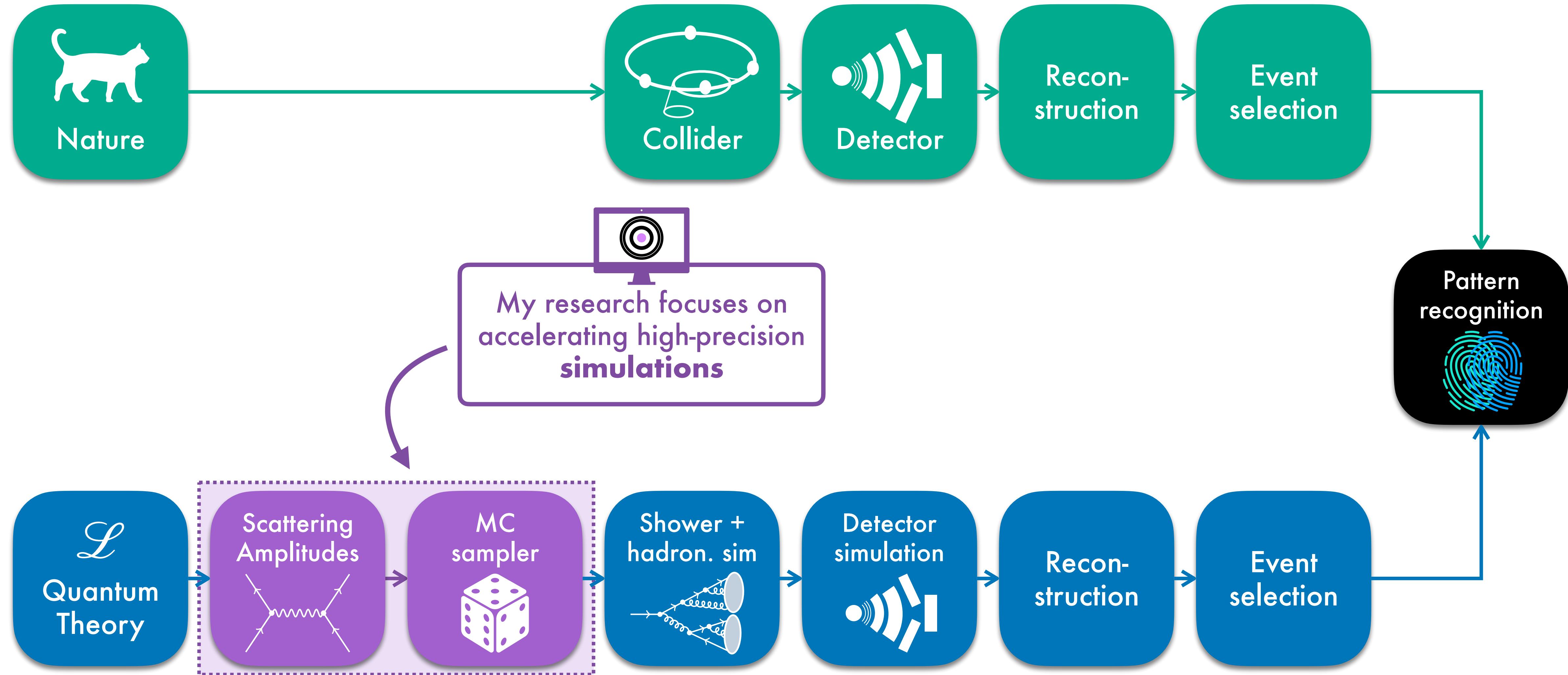
Collider analysis in a nutshell



Pattern recognition

My research in a nutshell

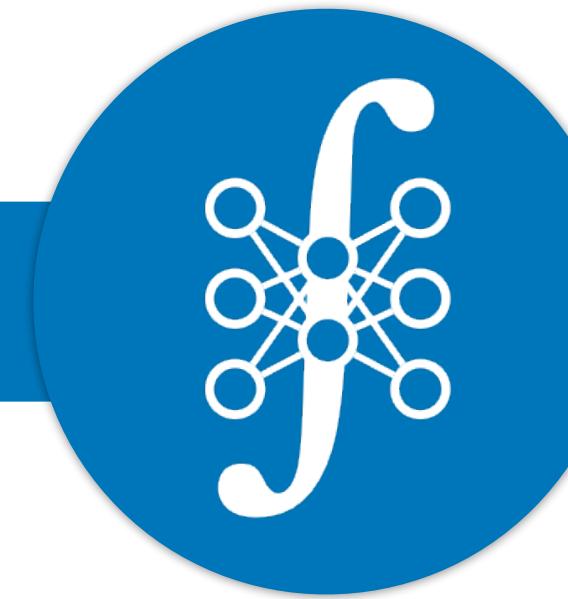
3



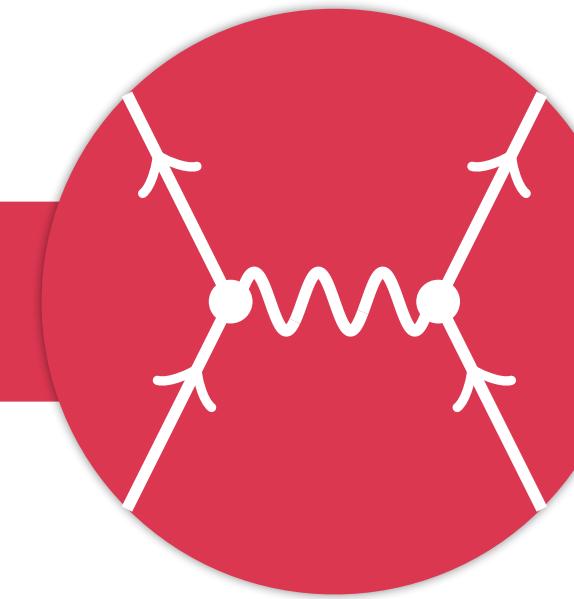
Three steps to happiness



MadEvent7



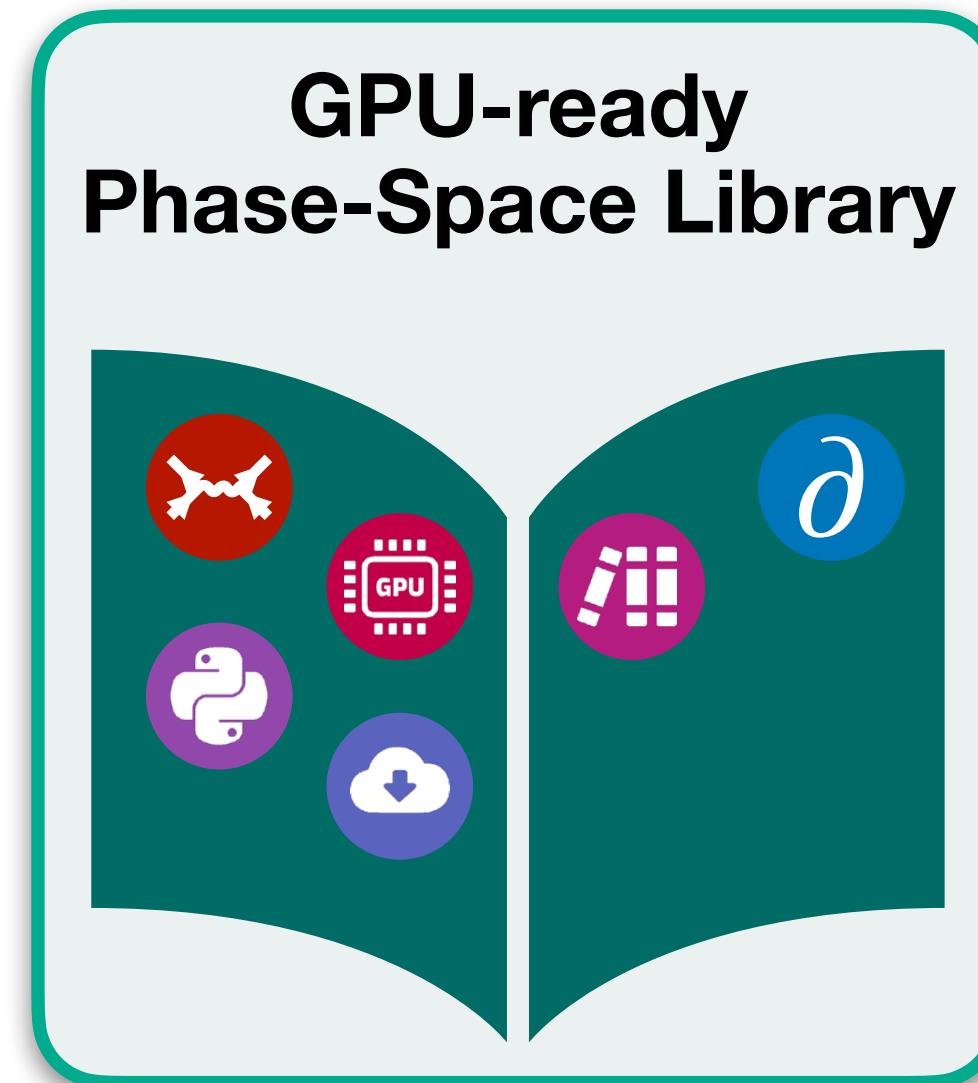
The MadNIS Framework



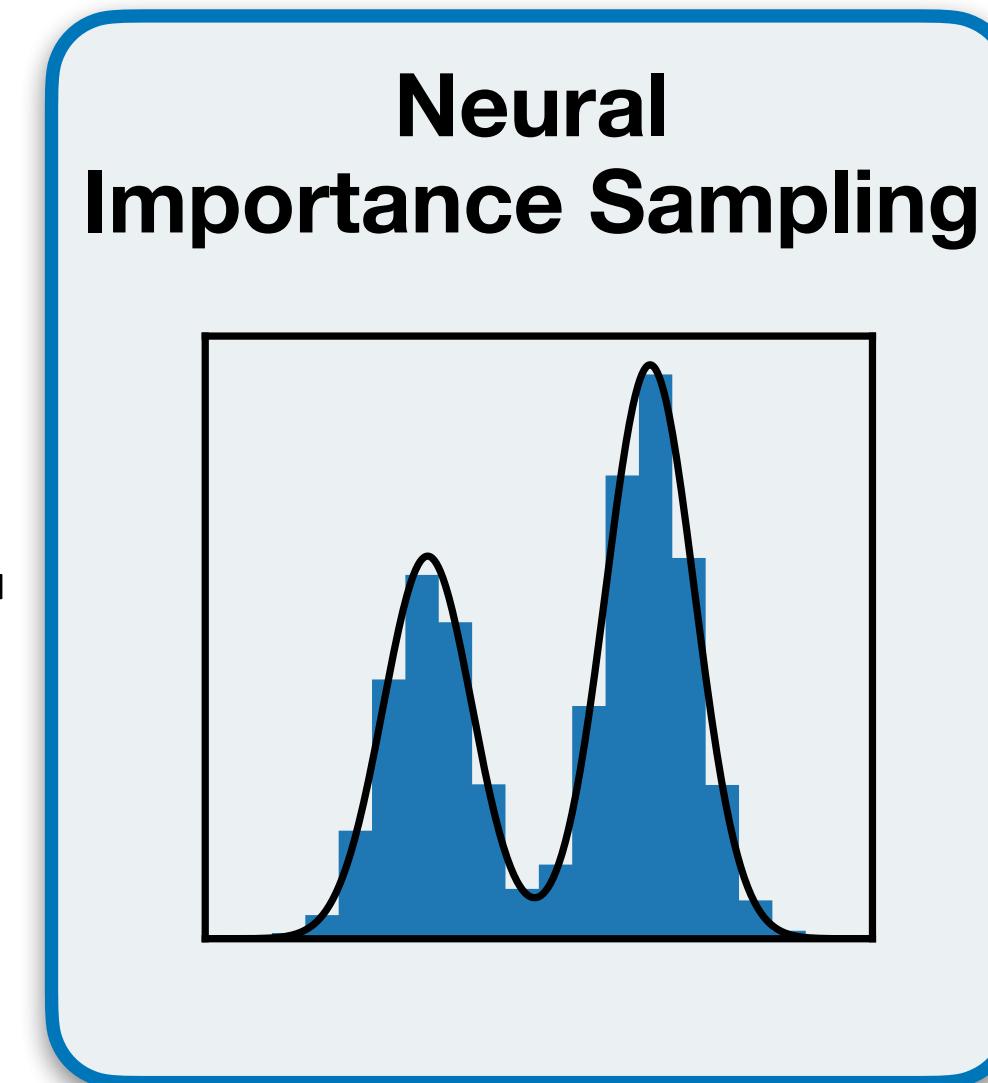
Amplitude Surrogates



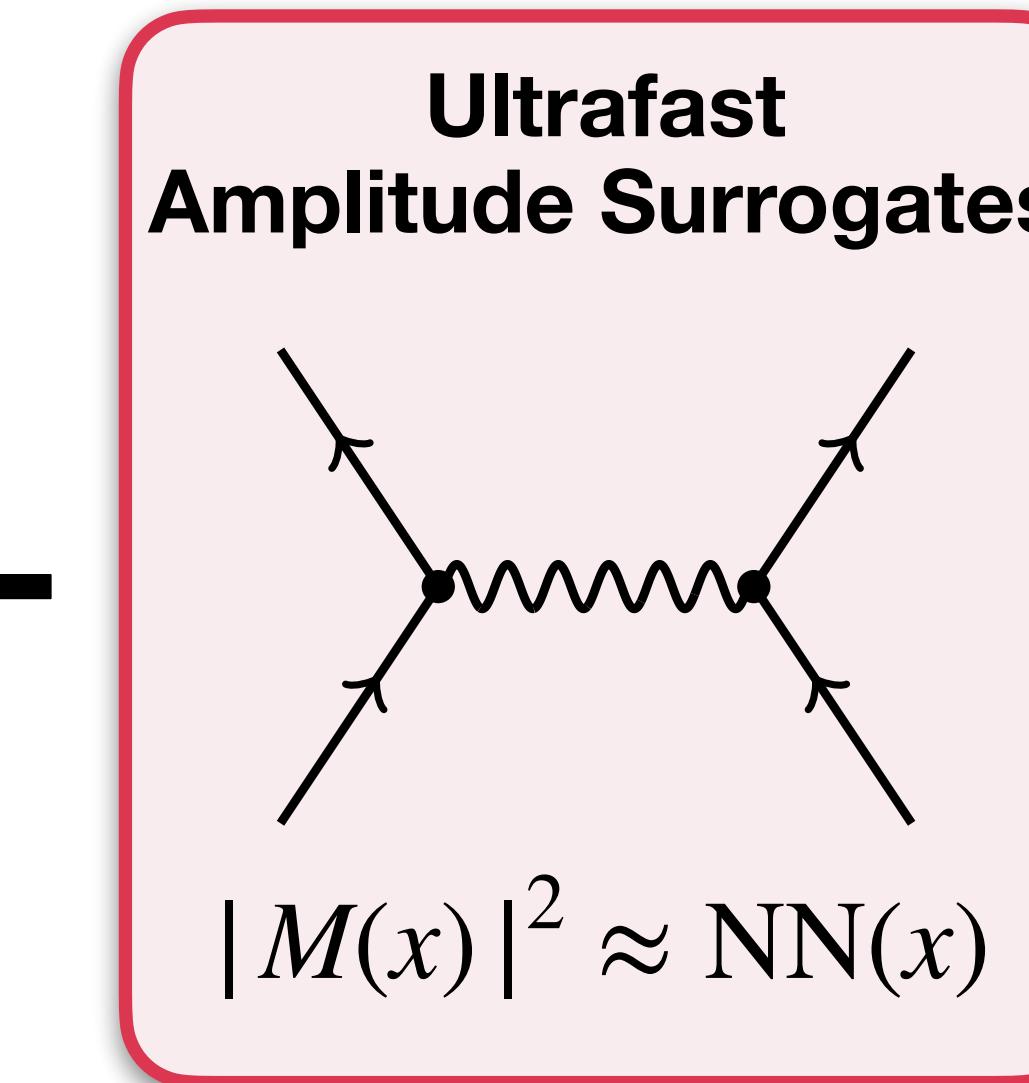
MadGraph7



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**Release planned
for 2026!**