

Lattice 2024



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## Diffusion models and stochastic quantisation in lattice field theory

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Diffusion models are currently the leading generative AI approach used for image generation in e.g. DALL-E and Stable Diffusion. In this talk we relate diffusion models to stochastic quantisation in field theory and employ it to generate configurations for scalar fields on a two-dimensional lattice. We end with some speculations on possible applications.

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